



# Advanced Apparel Production

## Level III

Based on Occupational Standard

March 2011 Version 1



**Module title: Creating Pattern Applying  
Advanced Pattern Making principles**

**LG CODE: IND AAP3 M05 LO (1-6) LG (17-22)**

**TTLM CODE: IND AAP3 TTLM 1220 V1**

December 2020

Bishoftu, ethiopin



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**L G#17 LO #1- prepare workstation****Instruction sheet**

This learning guide is developed to provide you the necessary information regarding the following content coverage and topic

- OHS practices
- Setting up workstation and seating
- Laid out materials.
- Setting up and reading pattern making tools and equipment

This guide will also assist you to attain the learning outcomes stated in the cover page.

Specifically, upon completion of this learning guide you will be able to:

- OHS practices and seating specifications for work.
- Set up workstation and seating
- Laid out materials.
- Set up and read pattern making tools and equipment

**Learning instructions:**

Read the specific objectives of this learning guide.

1. Follow the instructions described below.
2. Read the information written in the “information sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
3. Accomplish the “self-checks” which are placed following all information sheets.
4. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (you are to get the key answer only after you finished answering the self-checks).
5. If you earned a satisfactory evaluation proceed to “operation sheets



## Information sheet 1 OHS practices

### Introduction

The process of making a pattern and the garment in the fashion industry - The workflow and process, and the knowledge that a professional patternmaker in the fashion industry would need in order to make patterns. Of course, for home sewers making their own pattern, the process would not always be the same

#### 1. OHS practices

In the previous lesson you learned of spiritual keys which provide entrance to the kingdom of god. When you take up residency in the kingdom of god you must learn the patterns and principles of kingdom living. It is similar to learning the lifestyle of a new country to which you have immigrated.

The bible is the written record of the patterns and principles by which the kingdom of god operates. Before you study these principles in the following lessons, you must understand their importance.

OHS practices including control measures to protect every working man against the danger of injury, sickness or death through safe and healthful working conditions, thereby assuring the conservations of valuable man power resources and prevention of loss or damage to lives and properties.

##### 1.1.1 Hazard identification and control

Hazard identification is part of the process used to evaluate if any particular situation, item, thing, etc. May have the potential to cause harm. The term often used to describe the full process is risk assessment:

Identify hazards and risk factors that have the potential to cause harm (hazard identification). Analyze and evaluate the risk associated with that hazard (risk analysis, and risk evaluation). Determine appropriate ways to eliminate the hazard, or control the risk when the hazard cannot be eliminated (risk control).

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Overall, the goal of hazard identification is to find and record possible hazards that may be present in your workplace. It may help to work as a team and include both people familiar with the work area, as well as people who are not - this way you have both the experienced and fresh eye to conduct the inspection.

### **1.1.2 Risk assessment and implementation**

Risk assessment is a term used to describe the overall process or method where you: Identify hazards and risk factors that have the potential to cause harm (hazard identification).

Analyze and evaluate the risk associated with that hazard (risk analysis, and risk evaluation).

Determine appropriate ways to eliminate the hazard, or control the risk when the hazard cannot be eliminated (risk control).

A risk assessment is a thorough look at your workplace to identify those things, situations, processes, etc. That may cause harm, particularly to people. After identification is made, you analyze and evaluate how likely and severe the risk is. When this determination is made, you can next, decide what measures should be in place to effectively eliminate or control the harm from happening.

### **1.1.3 Risk reduction measures**

The ways of controlling risks are ranked from the highest level of protection and reliability to the lowest. This ranking is known as the hierarchy of control measures.

The hierarchy of control measures can be applied in relation to any risk.

You must always aim to eliminate the risk, which is the most effective control. If this is not reasonably practicable you must minimize the risk by working through the other alternatives in the hierarchy.

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#### **1.1.4 Manual handling techniques**

Manual handling accidents, as a result of pushing, pulling or lifting heavy objects or machinery, account for more than a third of all reported accidents each year. This short guide provides the best manual handling techniques to follow in the workplace so that you can reduce the likelihood of injury occurring.

#### **1.1.5 Standard operating procedures**

A standard operating procedure (sop) is a set of step-by-step instructions compiled by an organization to help workers carry out complex routine operations.

#### **1.1.6 Personal protective equipment**

Personal protective equipment (PPE) is protective clothing, helmets, goggles, or other garments or equipment designed to protect the wearer's body from injury or infection. The hazards addressed by protective equipment include physical, electrical, heat, chemicals, biohazards, and airborne particulate matter.

#### **1.1.7 Safe materials handling and safe storage of equipment**

Material handling is the movement, protection, storage and control of materials and products throughout manufacturing, warehousing, distribution, consumption and disposal. As a process, material handling incorporates a wide range of manual, semi-automated and automated equipment and systems that support logistics and make the supply chain work. Their application helps with:

A company's material handling system and processes are put in place to improve customer service, reduce inventory, shorten delivery time, and lower overall handling costs in manufacturing, distribution and transportation.

#### **1.1.8 Ergonomic arrangement of work places**

Ergonomics is the study of the interaction of workers and their work environment. The word ergonomics is derived from two Greek words: ergos and nomos, which translates into "work laws." ergonomics is an interdisciplinary field integrating the study of human anatomy, psychology, physiology, anthropometry, biomechanics, and industrial engineering. The ergonomist seeks to optimize the relationship between the worker and

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the work environment, thus improving productivity and the worker's well-being. The work environment includes all factors that affect the workplace and job performance even though they may not be directly involved in the operation.

### **1.1.9 Housekeeping**

Housekeeping means general care, cleanliness, orderliness, and maintenance of business or property. Good housekeeping is an important consideration in underwriting of fire hazard and other forms of insurance, as well as in certification by fire, health, and industrial safety agencies.

### **1.1.10 Reporting accidents and incidents**

Accurate and timely reporting of relevant information related to hazards, incidents, or accidents is a fundamental activity of safety management. You may hear the words accident and incident to refer to events in the news. These words are easy to confuse, but they are not exactly the same! Incident is more general, and accident is more specific.

Incident can refer to any event big or small, good or bad, intentional or unintentional.

A bank robbery a funny or controversial situation an argument between celebrities,

An accident is a bad event caused by error or by chance. Accidents are always unintentional, and they usually result in some damage or injury. A car crash is one example of an accident. If some equipment malfunctions in a factory and injures the workers, that is also an accident. Examples of very minor accidents are when you step on someone's foot or spill your coffee on someone else. You didn't want or plan to do it.

All accidents can also be described as incidents – but not all incidents are accidents.

If a drunk driver runs his car into a group of people, that is an accident (he did not intend to do it; it was caused by alcohol and chance).

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<b>Self-check1</b>	<b>Written test</b>
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**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page. **(2 point each)**

1. Personal protective equipments used to protect our head from injury.  
A. Helmets B. Goggles C. Safety shoe **D. Glove**
2. OHS practice includes  
A. Manual handling techniques  
B. Safe materials handling  
C. Taking of rest breaks  
D. **All**
3. \_\_\_\_\_ is the study of the interaction of workers and their work environment.

Name: \_\_\_\_\_

date: \_\_\_\_\_

**Note: Satisfactory rating – 3 points**

**Unsatisfactory - below 3 points**

You can ask you teacher for the copy of the correct answers.

### Answer sheet

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

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## Information sheet 2 setting up workstation and seating

### 2.1 set up workstation and seating

There is no regulation that specifically addresses workstations and seating. , the employer has a duty of care to employees to provide and maintain for employees a working environment that is safe and without risks to health (so far as is reasonably practicable).

This means that the workstation should be such that it does not create risks to the worker's health and safety. Ergonomics refers to how the workplace is set up, in relation to the equipment, the design of the building and how work is performed. Don't forget too, that with increasing evidence that sedentary work is a hazard, there needs to be consideration of breaks, and adjustable workstations.

- **Some basic rules for workstations:**

- ✓ When you are sitting at your workstation, you should be able to place your feet firmly on the ground or on a footrest, your thighs should be parallel with the floor, and the backrest of your chair should support your lower back. You should be able to move your chair easily about the work area, and its base should have five points touching the floor.
- ✓ The chair should be ergonomically designed: but take care when purchasing. Lots of chairs on sale are labeled as 'ergonomic' - but they're not. Your workplace should be set up so that you do not have to twist, reach or bend too often. If you do have to reach for something, it is better to get up and use the opportunity to change your posture. This will reduce fatigue. Getting up and stretching at regular intervals is a good idea.
- ✓ Learn how to adjust your chair:
  - alter its height until your shoulders are relaxed, not slumped, in the working position;
  - adjust the backrest into the small of your back;

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<b>Self-check 2</b>	<b>Written test</b>
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**Directions: answer all the questions listed below. Use the answer sheet provided in the next page**

**Explain the following question**

1. What is work station s (5%)

\_\_\_\_\_ , \_\_\_\_\_  
\_\_\_\_\_ , \_\_\_\_\_

Name: \_\_\_\_\_

date: \_\_\_\_\_

**Note: Satisfactory rating – 3 points**

**Unsatisfactory - below 3 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

1. \_\_\_\_\_  
\_\_\_\_\_

Score = _____
Rating: _____



## Information sheet 3. Laid out materials

### 3.1 Laid out materials

The arrangement of patterns pieces onto the laid lay meant for cutting garment parts is known as pattern layout or simply layout. Here the fabric is folded down in the middle parallel to the selvedge so that the selvedge come together one on top of other

The placement of pattern on the fabric, in an economical manner, that is without wasting fabric is known as pattern layout. All the patterns should be arranged prop-early following grain of the fabric. Example the bodice centre front will be in straight (lengthwise direction) grain.

The main points to be considered while laying patterns are:

Press the fabric without any wrinkles before laying the patterns.

Place the fabric on a large or a hard flat surface, which is easy for work.

Place the larger patterns first. Place similar pattern together, with same length. Example placement of bodice front and bodices back next to each other, such that the side seams are close to each other.

Place the smaller patterns in gaps in between the larger pattern.

If pattern is to be cut in more number, example two sleeve patterns, place them on fold.

This concept is not possible when the fabric has a one way design or when the patterns have different front and back patterns.

Keep weight, pencil, pins ready in hand, to draw, or pin or place weights on patterns, so that it remain in correct position.

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## Types of Pattern Layouts

Based upon the placement of the patterns, the layouts are classified as

- Open layout.
- Lengthwise center fold.
- Off-center length wise fold.
- Crosswise outer fold.
- Off center crosswise fold.
- Double fold or combination fold.

### Open Layout

Open layout is the simplest layout. The fabric is spread on the table and the patterns are laid from left to right one after the other. This is easy for beginners. No fold is made in this method. It can be used for all patterns. This is used especially for designs with different left and right patterns.

### Lengthwise Centre Fold

The fabric is folded in the lengthwise direction. The selvages of both sides are placed one on top of the other and folded in the middle. The fabric forms a fold at the centre. All folded patterns are placed along this fold. This fold is also used for different type of frocks, shirts and blouses.

### Off-Centre Lengthwise Fold

The required width needed for the patterns is taken on the fabric and folded in the lengthwise direction. This is commonly seen when many small patterns are found in garments. The fold should be parallel to the selvedge. This is used for many garments from simple baby's panty to integrated men's coats.

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### **Crosswise Outer Fold**

Crosswise centre fold is similar to length-wise centre fold. In this fold, the fabric is folded in crosswise direction. It is best suited, when the patterns are too narrow to be fitted in the lengthwise fold. This fold can also be used when special effects are needed like having a dress with horizontal strips using a material with length-wise stripes.

### **Off Centre Crosswise Fold**

The off centre crosswise fold is a layout when the fabric is folded in the cross grain. The fold is perpendicular to the selvedge. This fold is used when a part of garment is cut in cross wise grain for ease or special effects. Example when collars or yokes are cut on fabrics with horizontal strips or vertical strips.

### **Double Fold or Combination Fold**

In combination fold the fabric is folded in lengthwise and crosswise grains together. This layout is used for sari petticoats and jobless



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<b>Self-check 3</b>	<b>Written test</b>
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**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page. (5 point)

1. Which of the following crosswise centre fold is similar to length-wise centre fold  
A. Open Layout                      C. Fold  
B. Piece                                  D. All
2. Which of the following is In combination fold the fabric is folded in lengthwise and crosswise grains together  
A. Fold                                      C. Double fold  
B. Piece                                      D. All

Name: \_\_\_\_\_ date: \_\_\_\_\_

**Note: Satisfactory rating – 2.5 points                      Unsatisfactory - below 2.5 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

1 \_\_\_\_\_  
2. \_\_\_\_\_

Score = _____
Rating: _____



## Information sheet-4 setting up and reading pattern making tools and equipment

### 4.1 Setting up and reading pattern making tools and equipment

set up and reading pattern making tools and equipment there are various pattern making tools which are vastly used in apparel industry have pointed out in the below with their function:



Figure 4.1

#### 4.1.1 Pattern blocks

Pattern blocks are also another tool that preschool teachers might use to show more intricate patterns and designs. If you are unfamiliar with pattern blocks, basically they are a set of plastic learning manipulative that come in 6 different shapes: hexagon, trapezoid, square, triangle, parallelogram and rhombus, each with a different color.

#### 4.1.2 Scissors

Scissors are hand-operated shearing tools. A pair of scissors consists of a pair of metal blades pivoted so that the sharpened edges slide against each other when the handles (bows) opposite to the pivot are closed. Scissors are used for cutting various thin

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materials, such as paper, cardboard, metal foil, cloth, rope, and wire. A large variety of scissors and shears all exist for specialized purposes

The zinc alloy handle is suit to human engineering, which made it comfortable and vigorous to hold it and save your strength. Stainless steel blades with plated silver offset handle, rust less and durable for use.

Bent handle holds fabric flat, and can provide comfortable, smooth cutting across any flat surface.

The sewing scissors measure: 24cm/ 9.1/2 inches. Note: please put the dressmaking scissors far away children.

It suit for cutting the device and trim seam cutting leather up holster drapery fabric or rubber easily.

The color of the handle is silver that made it high-end and elegant posh. Not only can you use by yourself but present to your friends.

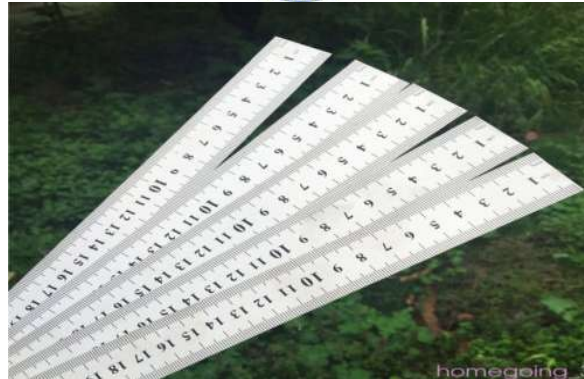


Scissors Figure 4.1 2

### 4.1.3 Ruler and square rule

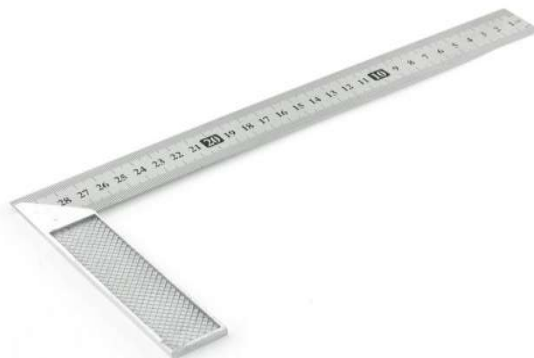
**Rulers:** rulers have long been made from different materials and in multiple sizes. Some are wooden. Plastics have also been used since they were invented; they can be molded with length markings instead of being scribed. Metal is used for more durable rulers for use in the workshop; sometimes a metal edge is embedded into a wooden desk ruler to preserve the edge when used for straight-line cutting. 12 in or 30 cm in length is useful for a ruler to be kept on a desk to help in drawing

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Ruler and square rule Figure 4.1.3

**4.1.4 Square rule square-rule.** Designed so that one variable concerned in the operation is proportional to the **square** of another in a **square-law** detector tube the plate-current variations are proportional to the **square** of grid-voltage variations



Square rule square Figure 4.1.4

#### 4.1.5 Marker pens

A marker pen, fine liner, marking pen, felt-tip pen, flow marker, text (in Australia), sketch pen (in south Asia) or Koki (in south Africa), is a pen which has its own ink source and a tip made of porous, pressed fibers such as felt.<sup>[1]</sup> a permanent marker consists of a container (glass, aluminum or plastic) and a core of an absorbent material. This filling serves as a carrier for the ink. The upper part of the marker contains the nib that was made in earlier times of a hard felt material, and a cap to prevent the marker from drying out

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Marker pens Figure 4.1.5

#### 4.1.6 Hole punch

A device for punching holes in sheets of paper, so that they can be filed in a ring binder. To make the hole for the tassel, use a hole-punch.



Hole punch Figure 4.1.6

#### 4.1.7 Pins

Pins are used for pattern manipulation. It also prevents pattern slippage when cutting several plies of paper together.

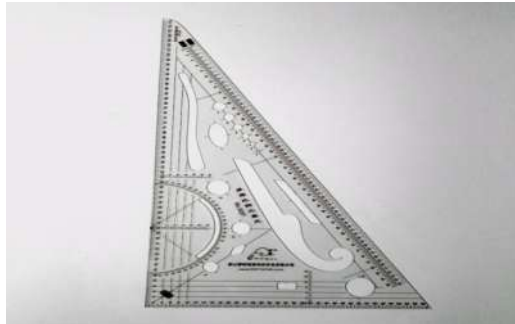
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**Pins Figure 4.1.7**

#### 4.1.8. Fashion triangle

This is the concept of fashion shape between the 70s and 80s it began in the 70s with the wider clothes at the bottom of the body (flares etc.) And the narrow clothes at the top. In the 80s the triangle reversed Amy: hey you so totally got the wrong idea about this whole fashion triangle thing wrong! That knit with triangle detailing is so like bad.



**Fashion triangle Figure 4.1.8**

#### 4.1.9 French curve

French curve is one of the several curves used for shaping arm hole and neck line.



**French Curve Figure 4.1.9**

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#### 4.1.10 Pattern notcher

A **pattern botcher** is a common tool used in patternmaking and sewing that creates a notch in a paper **pattern**. Notches are used to align **pattern** pieces. Notches in the paper are more useful than marks on the paper as they allow the mark to be seen whether **pattern** paper is face up or face down



**Pattern notcher Figure 4.1.10**

#### 4.1.11 Weights

The main purpose of pattern weights is as the name suggests, weighing down your pattern pieces. So when you are tracing or cutting a pattern instead of having to take time to pin the paper to the fabric you strategically place the weights on top so the pattern piece is flat and then trace or cut around the edge. Not only does this save you plenty of time, but it also helps to preserve your pattern pieces too as they won't be full of pin holes. Also pinning the pattern to the fabric can distort it slightly, whereas pattern weights keep it flat for you

I have written this guide for those of you who are unsure what pattern weights are, and what you would use them for. I was approached by pattern weights, a british based family run company who makes metal pattern weights with beautiful designs from numerous artists on them, a few months ago and asked if i'd like to try their weights out. Little did i know at the time that these items i'd never thought i needed would come in so handy

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**Weights Figure 4.1.11**

#### **4.1.12 Tape measure**

A tape measure or measuring tape is a flexible ruler used to measure size or distance. It consists of a ribbon of cloth, plastic, fiber glass, or metal strip with linear-measurement markings. It is a common measuring tool. Its design allows for a measure of great length to be easily carried in pocket or toolkit and permits one to measure around curves or corners.



**Tape measure Figure 4.1.12**

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#### 4.1.13 Computer with patternmaking software

The pattern making software is called a cad system. Abbreviation of cad is computer-aided design. Nowadays the cad system is a must have software in garment export house, medium and large size garment business. A cad system is used for pattern making as well as for marker making, and pattern grading.

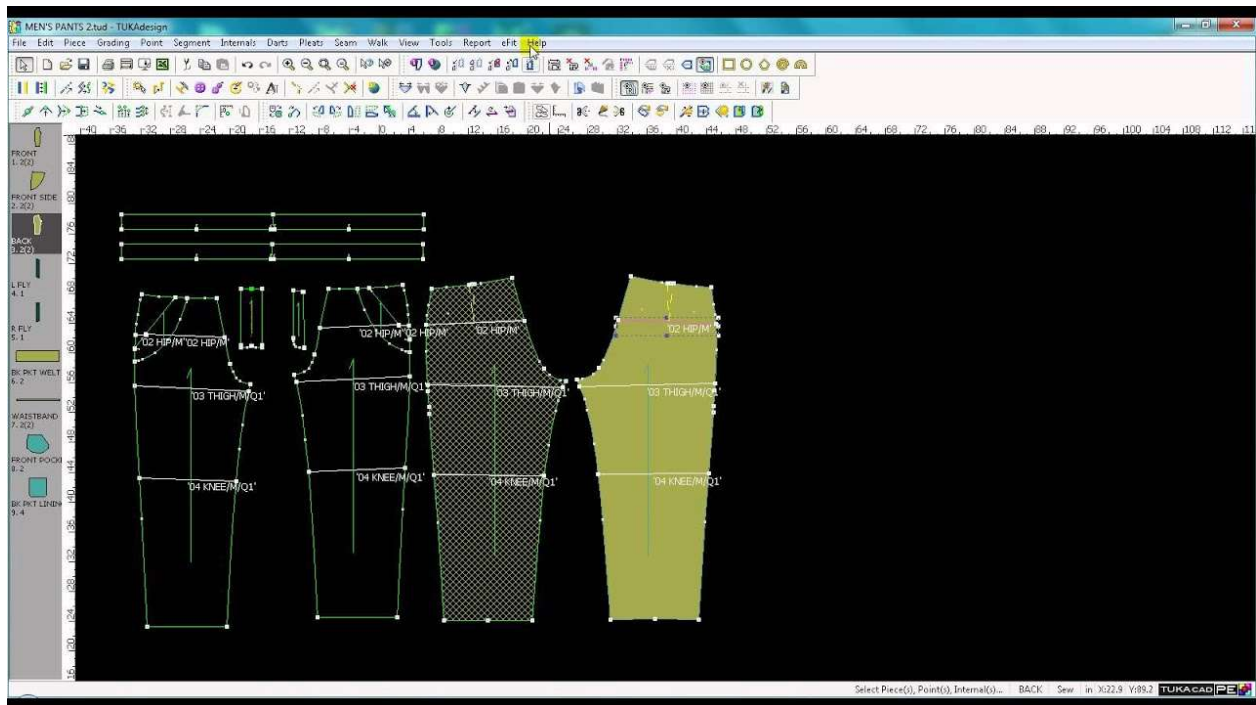


Figure 4.1.13

#### 4.1.14 pencil

Pencils create marks by physical abrasion, leaving a trail of solid core material that adheres to a sheet of paper or other surface. They are distinct from pens, which dispense liquid or gel ink onto the marked surface.

Most pencil cores are made of graphite powder mixed with a clay binder. Graphite pencils (traditionally known as "lead pencils") produce grey or black marks that are easily erased, but otherwise resistant to moisture, most chemicals, ultraviolet radiation and natural aging. Other types of pencil cores, such as those of charcoal, are mainly used for

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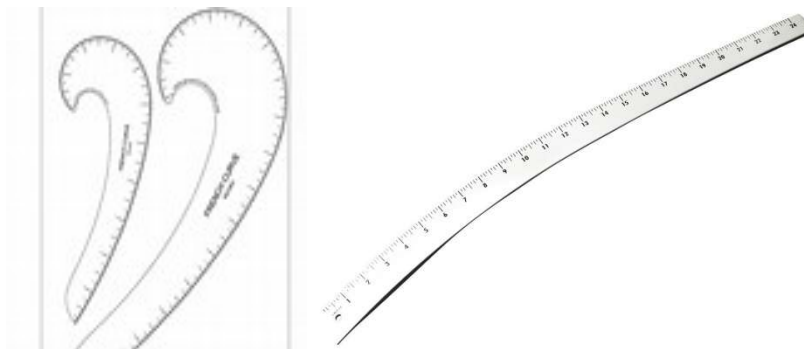
drawing and sketching. Colored pencils are sometimes used by teachers or editors to correct submitted texts, but are typically regarded as art supplies, especially those with cores made from wax-based binders that tend to smear when erasers are applied to them. Grease pencils have a softer, oily core that can leave marks on smooth surfaces such as glass or porcelain



**Pencil Figure 4.1.14**

#### **4.1.15 hip curve**

A curved ruler used in pattern making to shape from waist to hip in a dress and also in pants.



**Hip curve Figure 4.1.15**





<b>Self-check 4</b>	<b>Written test</b>
---------------------	---------------------

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page:

**I. Choose the best answer for the following question (2pts each)**

1. Which one of the following tool is to making shape from waist to hip in a dress? **(2pts)**

- A. pencil
- B. Hip curve
- C. Ruler
- D. All of the above

2. which one of the following is to measure size or distance ( **2pts**)

- A. Tap measure
- B. Ruler
- C. Hip curve
- D. none

II Define **(4pts)**

**Note: Satisfactory rating – 4 and above points**

**Unsatisfactory - below 4 points**

**Answer sheet**

Name: \_\_\_\_\_ date: \_\_\_\_\_

Choose

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

Score = _____
Rating: _____



<b>LG #18</b>	<b>LO#2. Interpret design</b>
---------------	-------------------------------

<b>Instruction sheet</b>
--------------------------

- Interpreting and clarifying design drawings and specifications
- Identifying design lines and style
- Considering fabric characteristics and performance, and trims and finishing
- Determining ease allowance
- Considering construction methods or trim details of garment
- Carrying out simple calculations

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Interpret and clarifying design drawings and specifications
- Identify design lines and style
- Consider fabric characteristics and performance, trims and finishing
- Determining ease allowance
- Consider construction methods or trim details of garment
- Carry out simple calculations

<b>Learning instructions:</b>
-------------------------------

Read the specific objectives of this learning guide.

1. Follow the instructions described below.
2. Read the information written in the “information sheets”. Try to understand what are being
3. discussed. Ask your trainer for assistance if you have hard time understanding them. Accomplish the “self-checks” which are placed following all information sheets.
4. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (you are to get the key answer only after you finished answering the self-checks).
5. If you earned a satisfactory evaluation proceed to “operation sheets



## Information sheet 1. Interpreting and clarifying design drawings and specifications

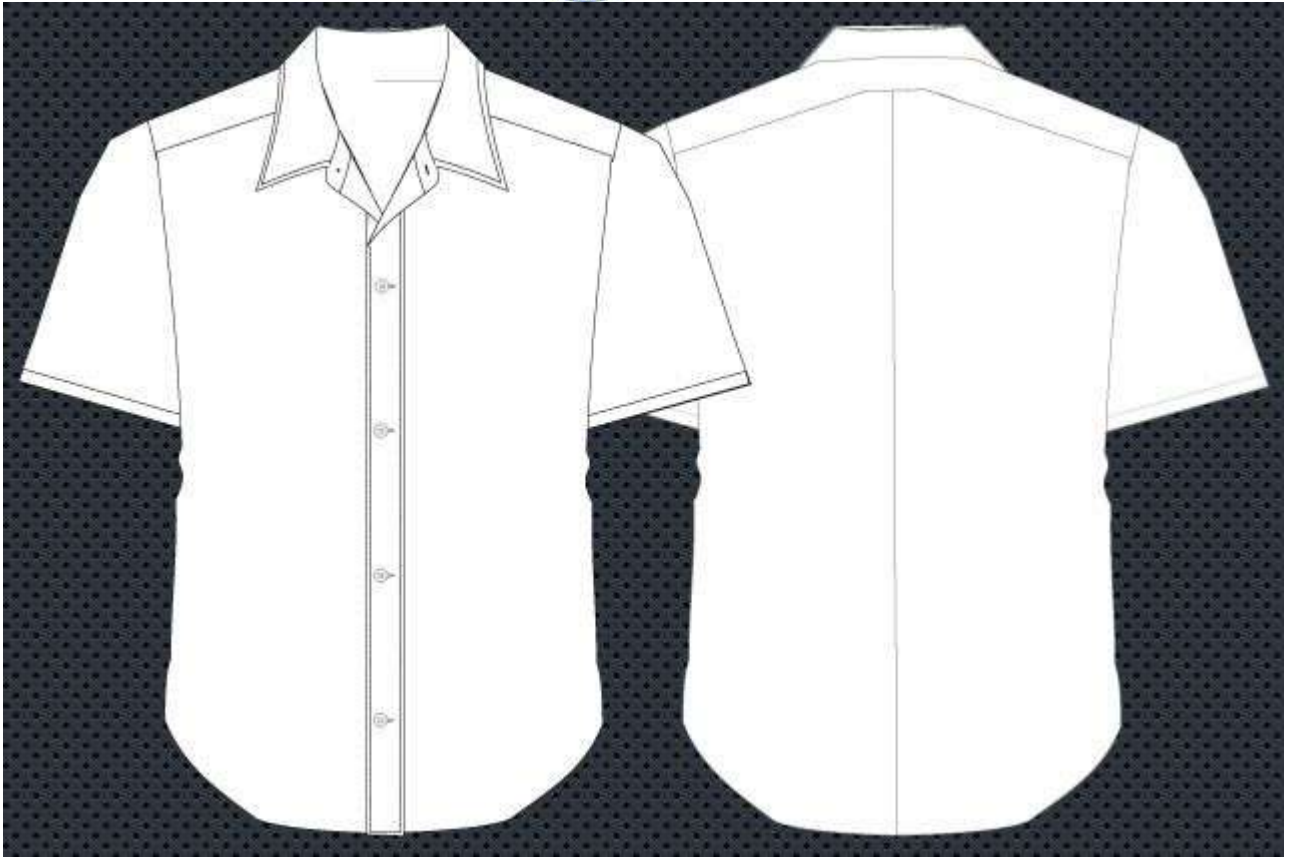
### 4.1 Interpreting and clarifying design drawings and specifications

A fashion sketch consists of the figurative fashion drawing of a slightly exaggerated, idealized and stylized human figure (male or female) along with the clothes and accessories adorning it. The basic purpose of any drawing is communication. The fashion sketches/ drawings are used by fashion designers and fashion illustrators to contain their fashion brief and communicate their creative ideas to the people who matter ( a client, producer or a designer boss) how a clothing they have in mind would eventually look. The fashion sketch maybe just an outline with the basic silhouette of the garment or contain all the details like what colors combinations work with it, embellishments, darts, pocket positions etc, accessories that go with it, even how much it would cost to produce.

- **Different types of fashion drawings**

- ✓ **Flat**-also called a flat sketch or fashion flat it refers to 2-dimensional linear drawings (usually in black and white) of the garment (or garments), as it is laid in the flat and drawn from above; flats are usually made with the help of software programs. It will have all the design details you want to be included in the garment.
- ✓ **Tech sketch**- is a flat sketch with details of the garment written in text (as callouts)

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**Shirt sketch**

- ✓ **Working drawing**-is the drawing presented to the pattern maker with all the information needed for him to make the pattern pieces. Fabric swatches, the fasteners used should be included in the comprehensive information passed on with the working drawing.
- ✓ **Specification sheet**-spec (specification) sheet-is a more precise presentation of the garment, with all the specifications included on it like the fabric used, trims used, how much it will cost to produce etc. This is used for the manufacturing process.

A garment specification sheet is a technical document that contains the construction details of the product, a technical diagram/ sketch of the garment, measurements of the product. Here fashion is referred to the apparel and clothing products.

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The fashion designer communicates the design concept through the specification sheet. The stitch class and seam type are mentioned in the sketch. The diagram also communicates different measuring points by English letter (symbol).

To make the garment pattern, grading of the patterns for different sizes, developing a sample and sourcing of the materials, the spec sheet is followed.

The initial specification sheet is made for developing proto sample. Later the specification sheet (measurement chart) may be revised after checking the sample fit and garment construction. In the sampling stage, the quality inspector and buyer qa follow the instruction in the specification for the sample checking and sample approval.

At each stage of sample approval, buyer adds comments of the specification sheet (tech pack). All the comments on the sample and modifications on workmanship and material are incorporated in the next sample development and bulk production.

In the bulk production, the revised and approved garment specification sheet is referred for internal quality checking and the final shipment inspection

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<b>Self-check 1</b>	<b>Written test</b>
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**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page:

I White different types of fashion drawings (4pts)

**Note: Satisfactory rating – 2 and above points**

**Unsatisfactory - below 2 points**

**Answer sheet**

Name: \_\_\_\_\_ date: \_\_\_\_\_

Score = _____
Rating: _____

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
- 4. \_\_\_\_\_



## Information sheet 2 . Identifying design lines and style

### 2.1 Identifying design lines and style

Apparel fit is the relationship between the size and contour of garment and those of the human body. A well fitted garment is a garment that hangs smoothly and evenly on the body, with no pulls or distortion of the fabric, straight seams, pleasing proportions, no gaping, no constriction of the body, and adequate ease for movement. Hems are parallel to the floor unless otherwise intended, and the garment armholes and crotch do not constrict the body. It can be defined as a simple matter of length and width in each part of the pattern being correct for the human figure.

Fit refers to how well a garment conforms to the three-dimensional human body. Good fit is crucial to customer satisfaction. However, it is often easier to find clothes in right colors, prices and style that one likes than a well-fitted garment. The effect of a stunning design, gorgeous fabric and exquisite workmanship are destroyed if the finished garment doesn't fit well to the intended wearer. Fit problems may be caused due to careless design, construction or may be the result of individual characteristics of an individual's body. No two bodies are alike, and sometimes even the left and right halves of the same body are not mirror images of each other.

- **Seams**

A seam is a method of joining two or more pieces of materials together by a row of stitching. The purpose of most of these seams is purely functional and can be called as constructional seams. Seams should be as flat as possible and unseen except those that are used for decorative purposes for garment design and line.

Seams can be classified into flat seams and ridge seams. Plain seam and flat fell seam are examples of flat seams. Ridge seams include the french seam. Seams may also be divided into conspicuous and inconspicuous seams. Inconspicuous seams when finished will not have stitches seen on the right side of the garment, example are plain, corded

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and French. Conspicuous seams are those that have stitches seen on the right side of the garment like run and fell seam, lapped seam etc.

- **Style lines**

A style line is a line (or curve) in a garment that has a visual effect, e.g., the seam between two fabrics of different colors. For comparison, a nearly invisible seam (say, in a French dart) would not be considered a style line. A style line is a boundary between two distinguishable areas of fabric. As the term is generally used in practice, a "style line" is introduced for fashion only. However, a style line may also fulfill a shaping function, e.g., as a dart, as a seam at which a dart may end or as a way of hiding detail(s) of the garment's construction.

- **Necklines**

The neckline is the top edge of a garment that surrounds the neck. The neckline is primarily a style line, but it can also be a boundary for shaping, e.g., cowls, darts or pleats, similar to the waistline.



### Necklines

decides the collar design, style and shapes. Collars can have square or pointed corners or adjusted edges. Collars could be in one piece or cut in two pieces or as a portion of the variety of the pieces of garments. Collars come in different shapes and styles ranging from simple collars such as the stand collar to more complex collars such as the shirt collar but the majority of collars have the same basic construction.

- **Button:**

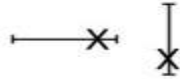
A sewing button is a small disc, typically round, usually attached to an article of clothing or garments in order to secure an opening, or for ornamentation. In modern clothing and fashion design, a button is a small fastener, most commonly made of plastic, but also frequently are used wood, bone, pearl, metal and sea shell, which secures two pieces of fabric together. Button is one type of important basic accessory of garments. Now button

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not only used for closing or opening garments but also used as fashion. It increases the fineness of garments. It also helps to make garment user friendly.



Button/Buttonholes

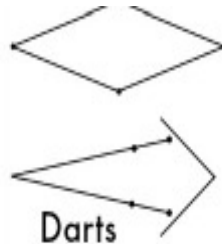
**Grain line Mark=** This mark is a horizontal line with arrows pointing out on either end; line this up with the grain of your fabric as you position your pattern pieces. (The grain of your fabric is parallel to the selvage edges).



**On fold line=** The Fold Line indicates which edge of the pattern piece is aligned with the fabric fold you should place the solid line running underneath the arrow onto the fold. Your pattern piece only embodies half of the fabric piece, so this line is very important as it ensures the creation of a whole

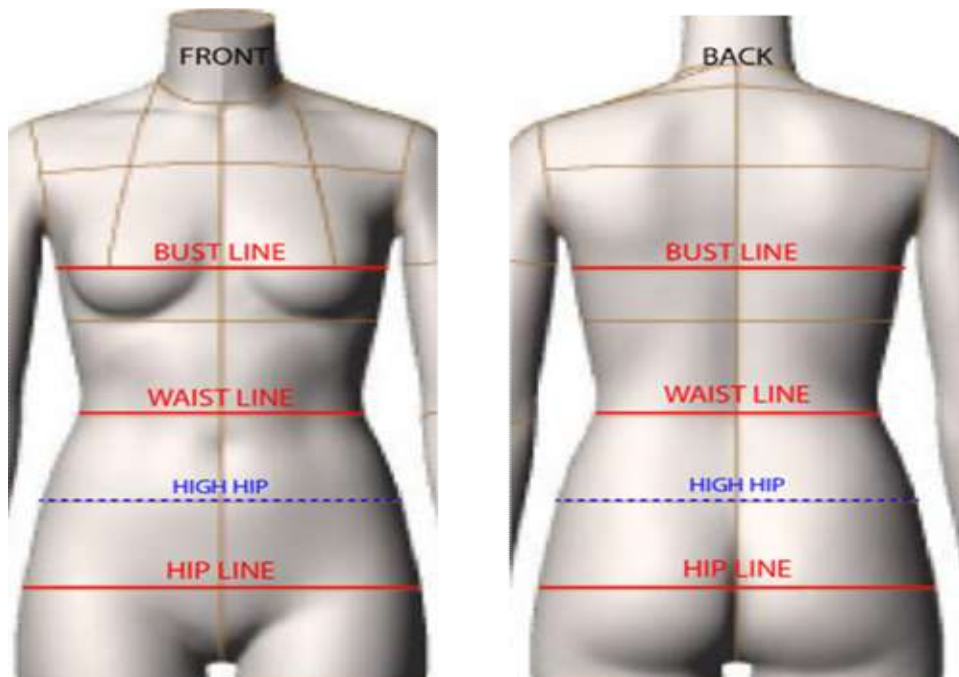
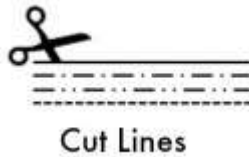


**Dart line=** Darts on purchased patterns come in a variety of sizes and shapes. They take in fabric to give shape to the garment. They take in fabric to give shape to the garment. They are usually found at bust lines, the back of a garment and waistbands on slacks or pants.





**Cutting line**= The Cutting Line Designs are interesting fashion sewing patterns from Louise Cutting. Clothing patterns for beginner through advanced sewing experience.



**The bust line:** position is a line that is level with the floor and crosses over the bust points. The bust point indicates the fullest part of the bust which is what needs to be addressed for a good fit. The bust position can be different on everyone

**The waist line:** position is a line that is level with the floor and crosses the narrowest part of the torso. This position greatly varies as well

**The hip line:** position is a line that is level with the floor and crosses over the fullest and widest part of the buttock

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**Self-check 2****Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page:

**I Choose the correct answer and circle it. (2 points each)**

1. Part of a shirt, dress, coat or blouse that fastens around or frames the neck.  
A. Neck line      B. Collar      C. Sleeve      D. All
2. Which of the following is typically round, usually attached to an article of clothing or garments in order to secure an opening  
A. Zipper    B. Button    C. Pocket    D. All
3. Which of the following is position is a line that is level with the floor and crosses over the bust points.  
A. Hip      B. Bust      C. Waist    D. None

**Note: Satisfactory rating -5 points**

**Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Name: \_\_\_\_\_ date: \_\_\_\_\_

Score = \_\_\_\_\_

Rating: \_\_\_\_\_



### Information sheet 3. Considering fabric characteristics and performance

#### 3.1 considering fabric characteristics and performance

Consider fabric characteristics and performance textiles and fabrics are generally defined as materials that have been expressly designed and produced to include or to enhance specific performance characteristics, such as increased warmth, durability or moisture resistance.

Textiles for apparels are constructed by innovative methods in construction by weaving or knitting to get the end product requirements of better strength, extension, elasticity, hand and resistance to abrasion. Woven and knitted fabrics are widely used and known for their respective properties of firm shape and elastic properties. Performance properties of single jersey knitted fabrics made from viscose, modal, Performance properties of the fabrics such as fabric weight per unit area, thickness, bursting strength, abrasion resistance, fabric stretch, porosity, air permeability and pilling were evaluated statistically and the importance levels of the relationship between the measured parameters were determined. Selection of fabric for specific apparel production is very important. Because fabrics are designed for specific applications, a fabric manufactured for one purpose, may not be adaptable for another use. Besides, fabric quality influences not only the quality of the garment but also the ease with which a shell structure can be produced out with flat fabric. The specifications of fabrics for apparel manufacturing can be considered in terms of primary and secondary quality characteristics. The primary quality characteristics are static physical dimensions and secondary characteristics are the reactions of the fabric to an applied dynamic force. Fabric performance in relation to 'better fitting to the human body' is an essential requirement of clothing materials. Besides, fabric behavior and characteristics play a vital role in the design and development of a functional garment. Different types of fabrics are used in different types of apparel. For example sportswear fabric and warm wear fabric are not similar

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- **Types of fabrics characteristics**

- ✓ **Polyester**=polyester is a synthetic fiber derived from coal, air, water, and petroleum. Developed in a 20th-century laboratory, polyester fibers are formed from a chemical reaction between an acid and alcohol. In this reaction, two or more molecules combine to make a large molecule whose structure repeats throughout its length.



Polyester Figure 3.1

- ✓ **Linen** =is a textile made from the fibers of the flax plant. Linen is very strong and absorbent, and dries faster than cotton. Because of these characteristics, linen is comfortable to wear in hot weather and is valued for use in garments.

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## Linen

- ✓ **Wool**=wool is the textile fiber obtained from sheep and other animals, including cashmere and mohair from goats, quiet from muskoxen, hide and fur clothing from bison, angora from rabbits, and other types of wool from came lids. Wool consists of protein together with a small percentage of lipids



## Wool

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- ✓ **Cotton**=cotton is a soft, fluffy staple fiber that grows in a boll, or protective case, around the seeds of the cotton plants of the genus *Gossypium* in the mallow family *Malvaceae*. The fiber is almost pure cellulose. Under natural conditions, the cotton bolls will increase the dispersal of the seeds



### Cotton

- ✓ **Silk**= silk is a natural protein fiber, some forms of which can be woven into textiles. The protein fiber of silk is composed mainly of fibroin and is produced by certain insect larvae to form cocoons the shimmering appearance of silk is due to the triangular prism-like structure of the silk fiber, which allows silk cloth to refract incoming light at different angles, thus producing different colors.

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**Silk**

**Trims and finishing in relation to the design**

The raw materials used in sewing room other than fabric are called trims. On the other hand, materials are directly attached to the fabric to make a garment are

**Performance of fabric:** If you have a busy household filled with kids, pets jumping on your nice furniture, or outdoor spaces that are vulnerable to degradation through weather elements, putting 'performance' at the top of your furniture requirements is a must



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## How to Spot Performance Fabrics

One of the big differences between basic fabric and performance fabric is the color quality. For most fabrics, the dye is applied as the last step in the manufacturing process, meaning its color only penetrates the very top layer of the fabric. This makes it more susceptible to fading as a result of water spills, sun exposure, high use, and other daily challenges. In the safety of a rarely used living room, your couch's color will probably last. But if exposed to any daily challenges, the color can quickly dissipate.



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Performance fabrics from Sun belle go beyond the finish, using UV-stable pigments to dye each thread, making the fabric fade-resistant. In addition, the fabrics are specifically engineered to resist mold and mildew, so you don't have to worry about your outdoor furniture being subject to water damage either.



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**Self-check 3****Written test**

Directions: answer all the questions listed below. Use the answer sheet provided in the next page:

**II. Choose the best answer for the following question (2pts each)**

1. Which one of the following fabric is produced by certain insect larvae to form cocoons the shimmering appearance? (2pts)

- A. Cotton                      C. Wool  
B. silk                          D. . All of the above

2. Which one of the following fabric is very strong and absorbent, and dries faster than cotton ( 2pts)

- A. Cotton                      C. Wool  
B. Linen                        D. . All of the above

3 \_\_\_\_\_ is the textile fiber obtained from sheep and other animals (2pts)

- A. Cotton                      C. Wool  
B. Linen                        D. . All of the above

Answer sheet

Name: \_\_\_\_\_

Choose

1. \_\_\_\_\_ date: \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_

Score = \_\_\_\_\_

Rating: \_\_\_\_\_



## Information sheet 4. Determining ease allowance

### 4.1 determine ease allowance

Imagine if a garment had no ease and were sown to the exact measurements of your body. It would be like a second skin. No thanks, right? If you were drafting a simple slope, then absolutely...draft it to your measurements. That's how it's supposed to be done! In order for a garment to be functional, the pattern dimensions must be slightly larger than the body measurements. That brings me to the topic of ease. Ease refers to the difference between the finished measurement of the garment and the measurements of the wearer's body.

There are two basic kinds of ease: wearing ease and design ease. Well, maybe there are a few more instances where it is used. For example; in a sleeve cap. But, let's talk about wearing and design ease.

#### 4.1.1 Wearing ease

With woven fabrics, the garment needs to be at least somewhat larger than the body; otherwise we would not be able to move in our clothing, right!? This difference is referred to as wearing ease. The wearing ease is sufficient to allow the body to move while keeping a very close fitted garment.

Essentially, it is the minimum amount of room added to a garment so that the garment feels comfortable and provides ease of movement for normal body movement. Basically, it is the number of inches added in addition to the actual bodies measurements. Again, this can be thought of as comfort room. We all have a certain way we like our clothes to fit and it's not exactly the same person to person.

With that said, the commercial pattern industry generally states that wearing ease is recommended to be 2 1/2"(6.4cm) at the bust area, 1"(2.5cm) at the waist and 3"(7.6cm) at the hip area.

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#### 4.1.2 Design ease

Design ease is any extra space that is purposely added to a garment by the designer to achieve a certain look, or drape. How much or how little is added will determine the silhouette of a garment; whether it will be close-fitting, fitted, semi-fitted, loose-fitting or very loose-fitting and is often added in addition to wearing ease.

It is difficult to determine each type of ease, however, you can refer to the chart below as a guide. Note that the measurements mentioned below are to be added to a circumference!

- Adjusted fit: 4.5cm
- Semi-fitted: 7cm
- Loose fit: 10cm
- Very loose fit: 15cm and more...

#### 4.1.3 Working with knits

With knit fabrics, the garment's finished measurement is often equal the wearer's body measurements, but, this is not always the case. The knit fabrics structure, stability, and its percentage of stretch will provide a guideline for the ideal amount to add or not to add. Some fashion knit tops on the market today purposely have an excess of positive ease to create an attractive drape, movement, and comfort.

#### Negative + positive

Garments made out of very stretchy fabrics, such as spandex leotards, may actually be made smaller than the body. Negative ease is often found in garments such as active wear and swimsuits. That's because the fit is partially obtained as the fabric stretches around the body. Positive ease, as stated above, can be used for both knit and woven fabrics. However, it is a required in woven fabrics to achieve ease of movement.

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<b>Self-check 4</b>	<b>Written test</b>
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**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page:

**I. Define the following words (2 points each)**

- A. Ease
- B. Wearing ease
- C. Design ease
- D. Negative ease

**Note: Satisfactory rating -4 points**

**Unsatisfactory - below 4 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_

date: \_\_\_\_\_



## Information sheet 5. Considering construction methods or trim details of garment

### 5.1 consider construction methods or trim details of garment

Fabric construction can be constructed (made) using different methods. They are produced by inter looped bonded yarns or fibers and felts made by interlocking fibers.

**Basically there are three (3) methods by which fabrics are made. They are:**

- **Knitting process:** these knits are constructed with a single yarn that is fed into knitting machine needles in a horizontal direction, also known as filling yarns. Warp knitting ◦ these fabrics are constructed with yarn loops formed in a vertical or warp direction.

In a knitted garment you will see the following courses these are the series of successive loops lying in crosswise direction. Wales these are the lengthwise or vertical columns of loops.



**Weft Knitting**

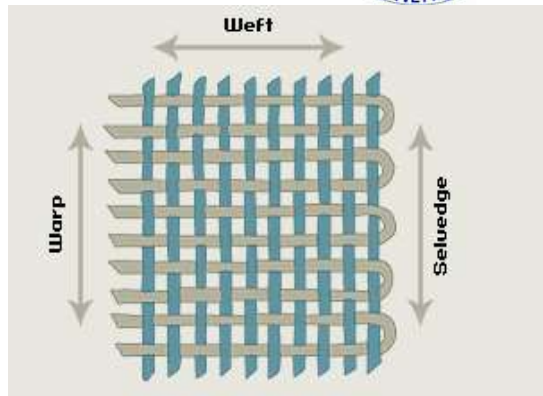


**Warp Knitting**

- **Weaving process;** weaving is the interlacing of threads; it involves two threads which are crossed over and under each other at right angles. Many types of weave can be created. Selvedge warp threads weft yarns

The warp yarn is also called the straight grain or length wise grain. Parallel to the selvedge. It is the strongest grain. The woven edge of the fabric also known as the crosswise grain. It runs horizontal or perpendicular to straight grain

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**Weaving process**

- **Non- woven process** non-woven is defined as fabric structures produced directly from fibers by bonding or felting. Therefore the yarn stage is skipped. Here, nothing is processed on spindles, looms or knitting machines. ◦

There are two methods of non- woven: 1. Bonding 2. Felting

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<b>Self-check 5</b>	<b>Written test</b>
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**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page:

**I. Choose the best answer for the following question (2pts each)**

1. One of the following is warp yarn also called the straight grain or length wise grain? (2pts)

- A. Knitting Cotton      C. Woven  
B. Non-woven            D. . All of the above

2. Which one of the following is constructed with a single yarn that is fed into machine needles in a horizontal direction ( 2pts)

- A. Non-woven            C. Woven  
B. Knitting              D. All of the above

3 \_\_\_\_\_ is defined as fabric structures produced directly from fibers by bonding or felting. (2pts)

- A. Knitting Cotton      C. Woven  
B. Non-woven            D. None

**Note: Satisfactory rating -6 points**

**Unsatisfactory - below 6 points**

You can ask you teacher for the copy of the correct answers.

Answer sheet

Name: \_\_\_\_\_ date: \_\_\_\_\_

Choose

1. \_\_\_\_\_            3. \_\_\_\_\_  
2. \_\_\_\_\_

Score = _____
Rating: _____



## Information sheet 6. Carrying out simple calculations

### 6.1 carry out simple calculations

Pattern-making Calculator is a unique calculator specially designed for pattern-making purposes and for fashion designers. You can perform calculation with simple fractions as well as decimal fractions. This gadget comes with nice, large, and easily read buttons and displays

Body measurement

1. Shoulder =38cm  $Sh = sh/2 = 38cm/2 = \underline{19cm}$
2. Chest=88  $Ch = ch/4 = 88cm/4 = \underline{22cm}$
3. Wait =80cm =  $wst/4 + dart = 80cm/4 + 2 = 20 + 2 = \underline{22cm}$
4. Hip =100cm  $Hp = hp/4 = 100/4 = \underline{25cm}$
5. Length=60cm =  $60cm$
6. Neck=36cm =  $N/5 = \underline{7.2cm}$
7. Sleeve Length =  $\underline{22cm}$
8. Sleeve opening =  $36cm/2 = 18cm$

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**Self-check 6****Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page:

1. What is simple calculation (4)

**Note: Satisfactory rating -4 points**

**Unsatisfactory - below 4 points**

You can ask you teacher for the copy of the correct answers.

Answer sheet

Name: \_\_\_\_\_ date: \_\_\_\_\_

Explain

1. \_\_\_\_\_

Score = \_\_\_\_\_

Rating: \_\_\_\_\_



<b>L G#19</b>	<b>LO #3- select block to be used</b>
---------------	---------------------------------------

<b>Instruction sheet</b>
--------------------------

This learning guide is developed to provide you the necessary information regarding the following content coverage and topic

- Analyzing design
- Identifying fabric performance characteristics
- Planning pattern development
- Determining ease allowances
- Selecting appropriate block

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Analyze design
- Identify fabric performance characteristics
- Plan pattern development
- Determine ease allowances
- Select appropriate block

<b>Learning instructions:</b>
-------------------------------

Read the specific objectives of this learning guide.

1. Follow the instructions described below.
2. Read the information written in the “information sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
3. Accomplish the “self-checks” which are placed following all information sheets.
4. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (you are to get the key answer only after you finished answering the self-checks).



5. If you earned a satisfactory evaluation proceed to “operation sheets
6. Perform “the learning activity performance test” which is placed following “operation sheets”
7. If your performance is satisfactory proceed to the next learning guide,
8. If your performance is unsatisfactory, see your trainer for further instructions or go back to “operation sheets”.

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## Information sheet 1. Analyzing design

### 1.1 Analyze design

Along with the manipulative skills needed in the flat patternmaking system, the patternmaker must also develop analytical skills. To do this, the patternmaker must be able to analyze the creative detailing of each design by studying the differences between the basic garment and the design. This involves knowledge of the three major patternmaking principles:

- Principle 1-dart manipulation
- Principle 2-added fullness
- Principle 3-contouring

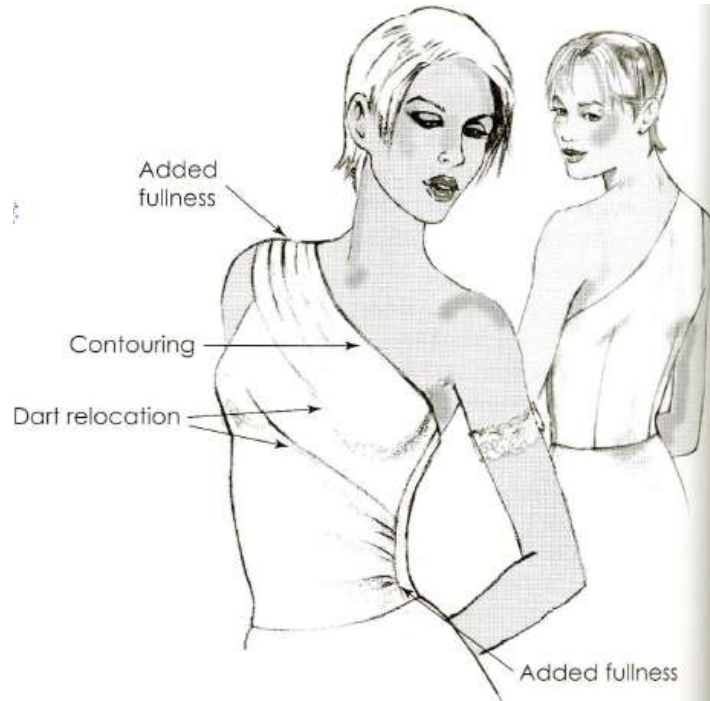


Figure 1.1: design analysis

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Designs are generally created without knowledge that certain principles are the basis for the creation. It is the patternmaker's responsibility to analyze designs and determine which principle(s) to apply to the developing pattern in order to ensure that the exact replica of the design will emerge from the finished pattern shapes. The beginning patternmaker should always study and compare the finished pattern shapes with the completed garment.

This will help the patternmaker visualize the relationship between them. Eventually the shape of the pattern will be visualized before the actual pattern is developed.

Design analysis is identifying the creative elements of the design-knowing where and how the dart excess was used. Was added fullness necessary to achieve the look of the design? Does the design fit the contours of the figure? These are the questions that must be answered before the patternmaker can plot the pattern in preparation for manipulation.



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**Design analysis** is the systematic process of developing a design including all information discovery, planning and communications. This can be applied to any type of design including the design of physical things such as buildings and intangible things such as software, information and processes. The following are illustrative examples of design analysis.

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**Self-check 1**

**Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page. **(4point)**

✓ What does mean design analysis?

**Note: Satisfactory rating – 2 points**

**Unsatisfactory - below 2 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

date: \_\_\_\_\_



## Information sheet 2 identifying fabric performance characteristics

### 2.1 Identifying fabric performance characteristics

Physical properties are the static physical dimensions of fabric. The following physical properties are used to define the static physical dimensions of strand fabrics:

- **Physical characteristics of fabrics**

Physical characteristics are the dynamic physical parameters of fabric. They are physical changes in the fabric that result from applying outside forces on the fabric. Most of the durability and utility values of fabric are characteristics and not properties. There are four major categories of fabric characteristics that interest the apparel manufacturer. They are:

- ✓ Style characteristics
- ✓ Utility characteristics
- ✓ Durability characteristics
- ✓ Product production characteristics

There are often correlations among the four types of characteristics. A utility characteristic such as fabric elongation will be correlated to a working characteristic such as sewing without stretching.

- ✓ **Style characteristics of a fabric**

Style characteristics are those changes which affect the emotional appeal, the fabric imports to the consumer. This is exemplified when a consumer handles a fabric and refers to the fabric with adjectives such as stiff, soft, hand, etc. The three basic categories for style characteristics are:

- **Hand characteristic** – are the changes of the fabric plane with hand manipulations, which exert tensile compression, molding, or supporting forces on the fabric. The

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hand characteristics include some of the utility characteristics, such as elongation, elasticity, flexibility, etc.

- **Tactile characteristics** – refer to the changes in surface contour that result from a mechanical force exerted on or against the surface structure. These changes apply to the surface contour aspects of the fabric surface and not the fabric plane. The surface contour changes dimension under tactile pressure (no matter how small the pressure) this is a tactile characteristic. Pile, napped, and any fabric whose surface contour can be varied by tactile pressure, have obvious tactile characteristics. Designers specify tactile characteristics with terms such as soft, coarse, rough, hard, smooth sticky, oily and greasy.
- **Visual characteristics** – are the changes in the color values when either the fabric or light is moved. End – to – end shading, side – to – side shading and mark – off are three color quality problems in addition to metamorphic fabrics.
  - End to end shading refers to changes in shade throughout the length; the shade of one end of the bolt differs from the shade of another end.
  - Side – to – side shading – refers to changes in shade from selvage to selvage; the shade of the fabric along one selvage differs from the shade of the fabric along the other selvage.
  - Mark – off – in the fabric is the phenomena of changing the shade and/or the intensity of the fabric surface by rubbing it.
  - Metamorphic – fabrics exhibit color difference with the change in the spectral distribution(characteristics) of the illuminant
  - **Utility characteristics**

Utility characteristics are changes in the fit, comfort, and wearing functions of the garment when the fabric engages a mechanical thermal, electrical, or chemical force during the utilization of the garment. The two major types of utility characteristics are transmission and transformation. A transmission characteristic transmits mass or energy through the fabric. Transmission characteristics include:

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- Air permeability ( includes all gases and vapor)
- Heat transmission ( thermal conductivity)
- Light permeability
- Moisture transmission
- Radioactivity transmission (the degree with which radioactive energy such as x-ray and gamma rays can penetrate fabrics).

Transformation characteristics change a physical property of the fabric. The property dimension(s) is altered without destroying the fabric. Changes which disintegrate the fabric are durability characteristics. Transformation characteristics include:

- Colorfastness
- Crease resistance
- Crock resistance
- Dimensional stability
- Pilling
- Shrinkage
- Static electricity etc

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- **Durability characteristics**

Durability characteristics are the capacities of fabric to maintain the style and utility characteristics during wear. It is the measure of stress which destroys the fabric or the fabric's ability to repeat a desired style or utility characteristic. The durability characteristics are:

- Abrasive strength (the measure of rubbing action)
- Bursting strength (the measure of vertical pressure)
- Launder-ability (the measure of washing)
- Tearing strength
- Moth resistance
- Tensile strength
- Radiation absorption strength (the rate at which radiation energy either disintegrate a fabric or destroys utility characteristics).
- Fire resistance
- Corrosive strength ( the measure of chemical action, acid or alkaline)
- Dry cleaning durability ( the measure of dry cleaning performance)

- **Product production working characteristics**

Product production working characteristics are those characteristics which affect the quality of production with respect to quality values and the cost of production method. The working characteristics of a fabric include:

- The coefficient of friction ( cutting, sewing, pressing and packing)
- Sewed seam strength
- Sewed seam slippage (yarn slippage)
- Sewing distortions
- Yarn sever age
- Bond ability strength (fused, cemented, and heat – sealed seams)
- Pressing mold ability (to what degree a flat piece of fabric may be skewed during pressing with hand and /press buck).
- Die mold ability – how well a flat seamless piece of fabric may be molded with dies into a given form such as a bra cup or a hat.

**Self-check 2****Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page:

**I. Choose the best answer for the following question (2pts each)**

1. One of the following is Product production working characteristics? (2pts)
  - A. Sewed seam strength
  - B. Sewed seam slippage (yarn slippage)
  - C. Sewing distortions
  - D. All
  
2. Which one of the following is durability characteristics ( 2pts)
  - A. Moth resistance
  - B. Tensile strength
  - C. Sewing distortions
  - D. A&B

**Note: Satisfactory rating -2 points**

**Unsatisfactory - below 2 points**

You can ask you teacher for the copy of the correct answers.

Answer sheet

Name: \_\_\_\_\_ date: \_\_\_\_\_

Choose

1. \_\_\_\_\_

2. \_\_\_\_\_

Score = \_\_\_\_\_

Rating: \_\_\_\_\_



## Information sheet 3 planning of pattern making

### 3.1 Plan of pattern making

Planning of pattern making is the first stage in clothing production planning. This stage includes all activities from garment pattern design, grading and preparation of markers to material requirements.

Constructing garment patterns is a very complex process that is performed, for particular types of garments, on the basis of

- ✓ Additional measurements
- ✓ Back and chest widths
- ✓ Body measurements
- ✓ Body proportions
- ✓ Construction measurements and
- ✓ Garment-sizing systems and size designation of clothes
- ✓ Main body measurements
- ✓ Pictogram

A pattern is a diagrammatic representation of the way a garment part is constructed, which forms the working plan for its manufacture. As garments are generally composed of the basic fabric, lining, and interlining, they require a pattern for the basic fabric, which will then form the basis of the pattern for the linings. Lining patterns should always include what is known as 'ease'. The lining should never pull the clothing out of shape or cause wrinkles. The ease may have to be increased, depending on the spread or stretch in the clothing fabric.

Industrial pattern making has two basic stages,

3. The block pattern. The block pattern can be created by two ways: a) flat method b) modeling
4. The garment pattern.

Garment patterns constructions are done by ways, manual or conventional method and by computer (cad). Basic pattern construction and modeling can be performed either in

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Contrary to the above, in conventional construction preparation, which includes the construction, modeling, and modifications of garment pattern-pieces manually, it is necessary to prepare the pattern-pieces in advance, which can be used later during computerized processing.

- **Instruction of garments pattern making:**

To enable the garment to be made up correctly, following instruction must be marked on apparel pattern:

- ✓ Balance mark: used to ensure patterns are sewn together at the correct points.
- ✓ Construction lines: these include button holes, pocket placing etc.
- ✓ Grain line: all patterns must have grain lines. It indicates the length direction of fabrics, i.e. During marker making all patterns must be placed to the length direction.
- ✓ Name of the part
- ✓ Size ( it will show you how to find your size on a pattern finished garment measurements)
- ✓ Style number.

- **Pattern pieces and their preparation:**

A pattern-piece can be defined as a component of a garment pattern constructed on the basis of technological-construction requirements, or a component of a garment part cut from a particular template. A pattern-piece should contain a designation (code), size designation, marks for the positions of darts, folds, pockets and control incisions, For the pattern-piece in question and the model to be manufactured, the designation of the appropriate grading table, the name of the model, and the identification code that indicates particular model pattern-pieces.

- **Adding seam and hem allowances:**

The seam allowance, which is defined as the distance between the seam line and the cut edge, should be determined for individual pattern-pieces, with respect to their clothing models. Within the seam allowance is a defined measure, which varies from enterprise to enterprise but should be defined uniformly in every production.

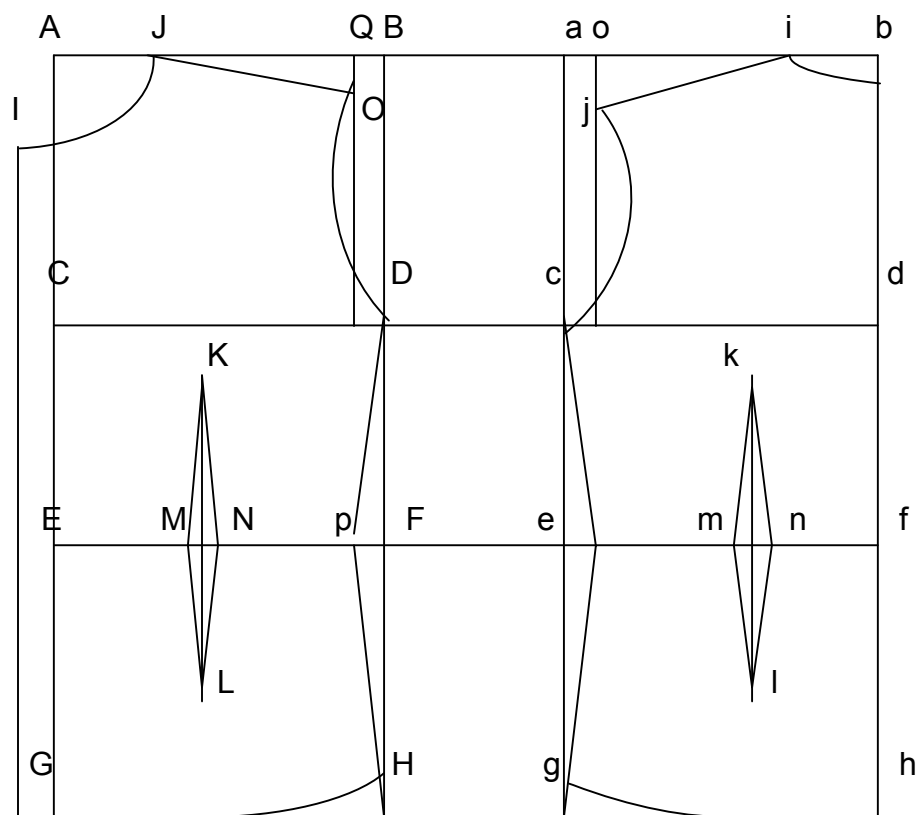
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### Body measurements

1. Shoulder =38
2. bust=88
3. Waist=80
4. Hip 100
5. Length=60
6. Neck=36
7. Sleeve Length=22
8. Sleeve opening =36

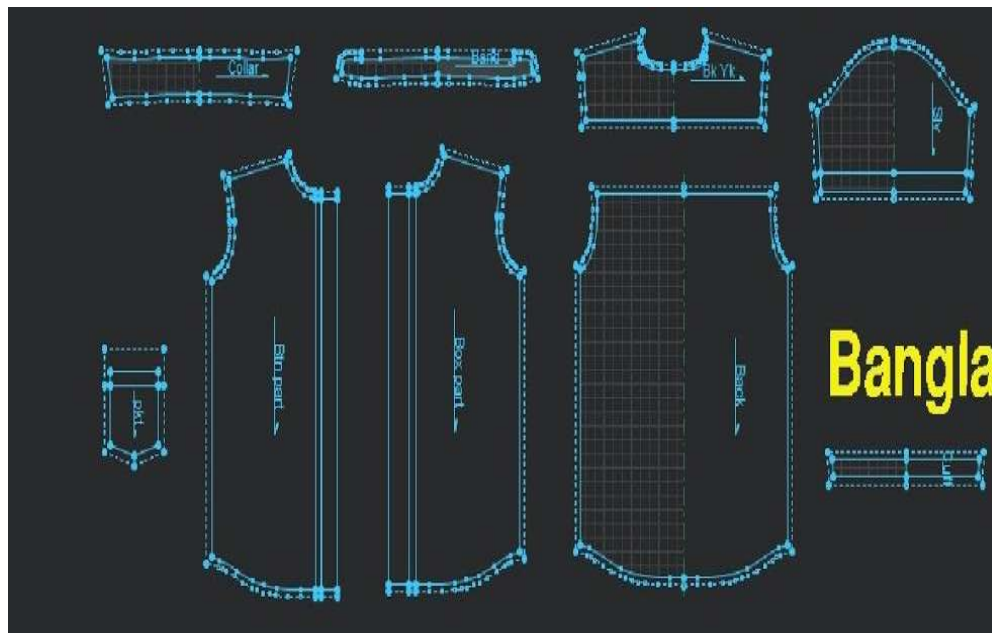


## Font

1.  $A-B=C-D=E-F=G-H=Bust/4$
2.  $A-C=B-D=Bust/4+2$
3.  $A-E=B-F=Shoulder\ to\ waist$
4.  $A-G=B-H=Length$
5.  $J-Q=Back\ shoulder$
6.  $A-I=N/5+2$
7.  $A-J=N/5$
8.  $E-P=W/4$
9.  $M-N=W/4+2$
10.  $J-O=Shoulder\ width$

## Back

1.  $a-b=c-d=e-f=g-h=bust/4$
2.  $a-c=b-d=bust/4+2$
3.  $a-e=b-f=shoulder\ to\ waist$
4.  $a-g=b-h=length$
5.  $j-i=shoulder\ length$
6.  $j-b=n/5$
7.  $e-f=w/4+2$
8.  $m-n=2cm$
9. back shoulder



**Self-check 3****Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page:

**II. Define the following words (2 points each)**

- J. Ease
- K. Wearing ease
- L. Design ease
- M. Negative ease

**Note: Satisfactory rating -4 points**

**Unsatisfactory - below 4 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

date: \_\_\_\_\_



## Information sheet 5 selecting appropriate block

### 5.1 select appropriate block

- **Block slope:** is a term given to a very basic set of pattern piece used to make patterns of any style. This is a term for a paper cutting of basic bodice, skirt, sleeve or any such basic pattern from which all the other designs are developed. Block normally represents the dimensions of a specific form or figure. It has darts to fit to the contours of the body but no other design features. It is a foundation that is used to make the pattern for a design and has no seam allowances.

It is important that the correct block is chosen for the design; this not only saves time during adaptation but can affect the final shape. The basic blocks can be drafted to fit individual figures by using personal measurements instead of the standard measurements listed in the size chart.

- ✓ A slope is the starting point for flat pattern designing. It is a simple pattern that fits the body with just enough ease for movement and comfort. Five basic pattern pieces are used for women's clothing. It is a 5-piece pattern set consisting of a front/back bodice front/back skirt and a long sleeve, which represents the dimensions of a specific form or figure. It is developed without design features and is always traced for pattern development.
- ✓ However, as fashion changes frequently women's styles fluctuate frequently. Those basic slopes' are then manipulated to create fashions.

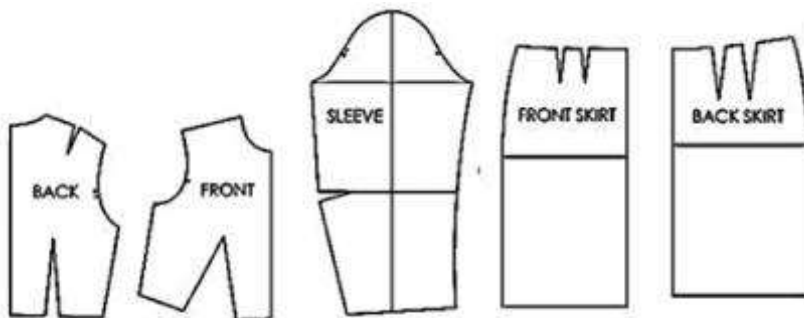


Figure 5.1: basic blocks/slopes

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- ✓ A basic slope has no seam allowances, which facilitates its manipulations to various styles. It has no design interest, only construction lines are marked on it. It is necessary that the basic structure of a slope should be such that adjustments can be introduced easily. For a good pattern making, accurate measurements are of utmost importance.

Using the final fitted muslin, you'll transfer all of your corrections to paper, and then make a cardstock basic block pattern that you'll use again and again to create your new designs. And they'll fit! Hooray!



[684Save](#)

By now you have assembled your fitting muslin and fit it on yourself or on your body form.

This is my fitting pattern muslin. Overall, it fits the form pretty well. Take another look to see if anything is still tight, droopy, or uneven. This is your last chance to fix it, so you'll never have to fix it again.

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What I found on my dress, unfortunately, is that the side seams on the bodice and skirt did not line up properly, and overall the seam was not straight.

The red lines indicate the seams as sewn on the final version of the dress. The black line is the corrected seam line. I will make these corrections as I transfer the markings to the paper pattern.



First, take the muslin dress apart along the stitch lines (make sure all stitching lines are clearly marked before taking the dress apart).

Then, trim the pieces along the FINAL; corrected seam lines/dart lines. There should be NO seam allowance on these pieces.

On the sleeve cap, I did not cut the sleeve along the alteration line; I will make that adjustment to the paper pattern.

On the back, I pinned the bodice to shorten it; again, I will make the same folded adjustment to the paper pattern.

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After trimming the muslin pieces, lay the muslin piece over the corresponding paper pattern and transfer all seam lines, darts, and other markings made during the fittings. Then trim the paper pattern, as you did the muslin pieces.

The photo at right shows the back bodice laid over the paper pattern (use a ruler to draw straight lines onto the paper pattern). The front bodice (on the left) has already been trimmed.





Before transferring the paper pattern to cardstock to make the pattern block, check that all the pieces fit together.

Tape any darts closed where they meet the seams you are checking. Here, I have taped the side bust dart closed to check the side seams. The waist darts can remain open at this point.

Lining up the front and back bodice at the side seam, I see that the sides are uneven at the waist. I'll add a piece of paper to the front bodice to correct the problem.



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**Self-check 5****Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page.

1. What does block mean? **(3 point )**
2. List the five basic pattern pieces. **(5 point)**
3. Write the characteristics of the block pattern. **(2 point)**

**Note: Satisfactory rating – 10 points                      Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_

date: \_\_\_\_\_



<b>Operation sheet 1</b>	<b>Select block pattern</b>
--------------------------	-----------------------------

**Procedure:** Select block pattern needed for pattern making.

: Clean drawing table and work station

**Step 1-**Draw a basic sketch

**Step 2-**Take measurements

**Step 3-**Use patternmaking tools

**Step 4-**Identify the appropriate block pattern for dress, skirt, and shirt and suit jacket

**Step 5-**Show the selected pattern

<b>Lap test</b>	<b>Practical demonstration</b>
-----------------	--------------------------------

Name: \_\_\_\_\_ date: \_\_\_\_\_

Time started: \_\_\_\_\_ time finished: \_\_\_\_\_

**Instructions:** given necessary block templates you are required to perform the following tasks within required hours.

**Task 1:** select appropriate block



<b>L G#20</b>	<b>LO #4- prepare pattern</b>		
<b>Instruction sheet</b>			
<p>This learning guide is developed to provide you the necessary information regarding the following content coverage and topic</p> <ul style="list-style-type: none"> <li>• Applying advanced patternmaking principles.</li> <li>• Documenting methods and formulas used</li> <li>• Checking pattern pieces.</li> <li>• Labeling all pattern pieces.</li> </ul> <p>This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:</p> <ul style="list-style-type: none"> <li>• Applying advanced patternmaking principles.</li> <li>• Documenting methods and formulas used</li> <li>• Checking pattern pieces.</li> <li>• Labeling all pattern pieces.</li> </ul>			
<b>Learning instructions:</b>			
<p>Read the specific objectives of this learning guide.</p> <ol style="list-style-type: none"> <li>11. Follow the instructions described below.</li> <li>12. Read the information written in the “information sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.</li> <li>13. Accomplish the “self-checks” which are placed following all information sheets.</li> <li>14. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (you are to get the key answer only after you finished answering the self-checks).</li> <li>15. If you earned a satisfactory evaluation proceed to “operation sheets</li> <li>16. Perform “the learning activity performance test” which is placed following “operation sheets”</li> <li>17. If your performance is satisfactory proceed to the next learning guide,</li> <li>18. If your performance is unsatisfactory, see your trainer for further instructions or go back to “operation sheets” .</li> </ol>			



## Information sheet 1 applying advanced patternmaking principles.

### 1.1 Definitions and concepts of pattern making

Pattern making the process of transforming the design into the appropriate pieces needed to produce an apparel item. Pattern making is the art of manipulating and shaping a flat piece of fabric to conform to one or more curves of the human figure. Pattern making is a bridge function between design and production.

A sketch can be turned into a garment via a pattern which interprets the design in the form of the garment components. The development of a garment comprises of different process. Fit is the most important factor leading to the final acceptance or rejection of a garment. Fit must be designed into the original pattern through subtleties in the pattern that provide fullness unobtrusively at appropriate locations to accommodate body bulges in a flattering manner. Good customized fit is dependent on the pattern drafting incorporating various shapes and proportions of the individual customer.

With the onset of the industrial revolution, standardized patterns were essential to the success of ready-to-wear clothing. A patternmaker typically makes a pattern from a flat sketch with measurements or a two dimensional fashion illustration.

The basic pattern is the very foundation upon which pattern making, fit and design are based. The basic pattern is the starting point for flat pattern designing. It is a simple pattern that fits the body with just enough ease for movement and comfort. A pattern is flat while the body is not. The body has height, width and depth. Within this roughly cylindrical framework there are a series of secondary curves and bulges, which are of concern to the pattern maker. Darts are the basis of all pattern making. They convert the flat piece of cloth into a three dimensional form, which fits the bulges of the body.

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## 1.2 Types of pattern making methods

Designers begin by creating a 2d or 3d pattern, utilizing one or more of those pattern making methods such as reversed engineered, computer generated, drafting, draping and flat paper patternmaking

- **Reverse engineering a pattern:** patterns are created by deconstructing an existing garment. It is taken apart, analyzed, and new pattern pieces are created.
- **Computer generated patterns:** computer-aided design (cad) software is used to produce patterns for textiles, apparel and other products.
- **Drafting:** patterns are created by using measurements of an existing garment, an individual, body form or taken from the size chart. Pattern is then drawn on paper utilizing the body measurements.
  - ✓ It involves measurements derived from sizing systems.
  - ✓ Accurate measurements taken on a person.
  - ✓ Dress-form or body form.
  - ✓ Ease allowances are marked on paper and construction lines are drawn to complete the pattern.
  - ✓ Drafting is used to create basic, sloper, foundation or master patterns.
- **Draping:** a garment is created by molding, cutting, and pinning fabric on an individual or a dress form. It is the oldest method of pattern making.
  - ✓ It involves the draping of a two dimensional piece of fabric around a form, conforming to its shape, creating a three-dimensional fabric pattern.
  - ✓ This muslin is transferred to paper to be used as a final pattern.
  - ✓ Ease allowances for movement are added to make the garment comfortable to wear.
  - ✓ Advantage of draping is that the designer can see the overall design effect of the finished garment on the body form before the garment piece is cut and sewn. However, it is more expensive and time consuming than flat pattern making useful for fashionable wear.
- **Flat pattern making:** a pattern is created by using an existing foundation pattern known as a slope or a block. Slope (home sewing industry term) or block (apparel

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manufacturing industry term) means custom fitted basic pattern based on individual or companies standard size measurements from which other patterns can be made.

The flat patternmaking method is widely used in the ready-to-wear market because it is fast and accurate

Flat pattern making is based on three major pattern making principles and techniques:

- **Dart manipulation (relocating darts):** a dart may be transferred to any location around the patterns outlines from a designated pivotal point without affecting the size or fit of a garment.
- **Added fullness (adding more fabric in the design):** to increase fabric in a garment to an amount greater than that provided by the dart excess of the working pattern. The length and width within the pattern's outline must be increased.
- **Contouring (fitting to the hollows of a model's figure):** to fit the contours of the upper torso closer than does the basic garment pattern must be reduced within its frame to fit the dimension of the body above, below and in between the bust mounds and shoulder blades.
- **Dart manipulation**

Dart manipulation is the changing the location of a dart within the pattern frame. Dart is responsible for fit and will be part of the design in one form or another. Dart can be transferred to any location around the pattern's outline from designated pivotal points without affecting the size or fit of the garments. Dart manipulation is a useful tool for pattern maker for creating interesting, innovative dart placements and style lines. The darts can be stitched as new darts, as style lines, can be converted into tucks, pleats, gathers, yokes, etc. The basic fit of the garment is not altered by these manipulations.

A dart can be transferred to any location around the pattern's outline from a designated pivotal point without affecting the size or fit of the garment. When pattern making from previous blocks there are two methods for making an alteration to the dart, and these are also two of the main methods used for flat pattern making. The first method is called 'cut and spread' while the second is based on a 'pivot' method.

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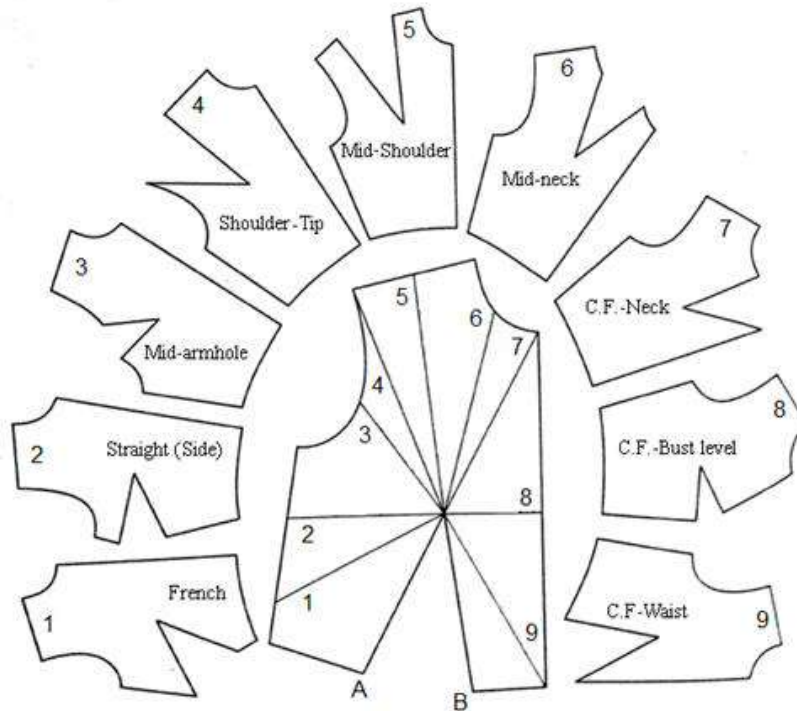


Figure 1.1: dart transfer locations

### Techniques of dart manipulation

- **Slash - spread / slash - overlap:**

Through this method, the patternmaker is able to see how the original working pattern changed into a design pattern. An easy way to rotate a dart on a flat pattern is to slice a straight line from the dart point to another edge of the pattern (the slash). The two pieces thus created can then be pivoted (spread) at the dart point to shift the dart to the position of the slash.

- ✓ Trace the pattern. Mark the centre front waist dart. Label dart legs a & b.
- ✓ Draws slash line from the dart point to the new position the dart. Here moving waist dart to shoulder dart. (fig. 1.2 (a)).
- ✓ Slash through the line to the dart point. (fig. 1.2 (b)).
- ✓ Close up the old dart to open the new one and tape the old one close. (fig. 1.2 (c)).
- ✓ Place pattern on paper and retrace. Centre dart point 5/8 " from bust point. Draw dart legs to dart points.

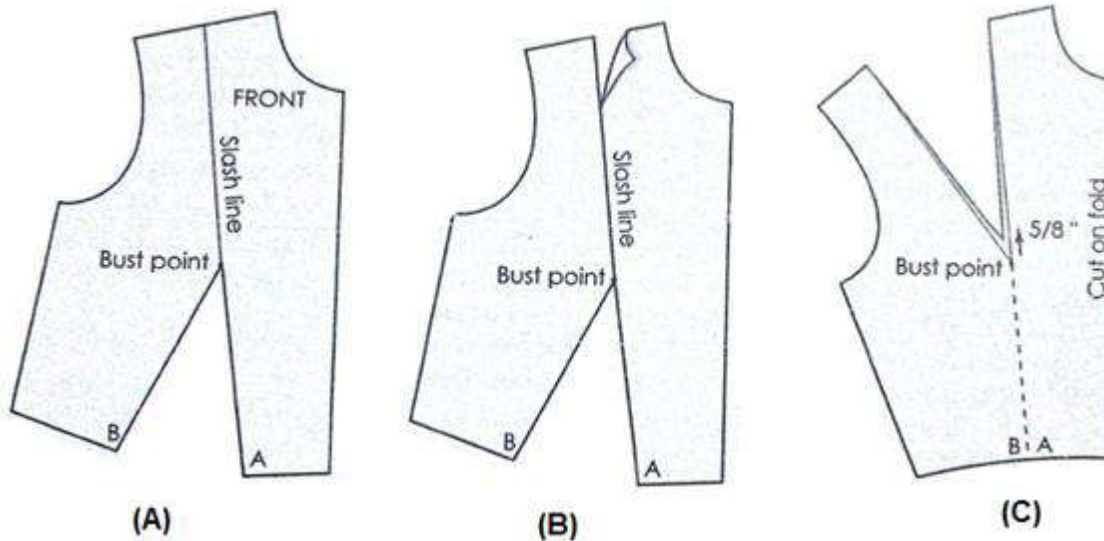


Figure 1.2: slash - spread / slash - overlap

- **Pivotal transfer**

This method does not require the working pattern to be slashed in order to change its original shape into a design pattern. It is a faster method and, with experience it is preferred. The pattern is slashed to, or pivoted from, this point. This allows the pattern shape to be altered without changing its size or fit.

- ✓ Place the pattern on paper with a push pin through the bust point (pivotal point).
- ✓ Then one dart leg - a of the original dart is traced onto the paper.
- ✓ Mark the new dart location as c (here mid-neck location).
- ✓ Trace the section of pattern from dart leg a to c on new paper. (fig. 1.3 (a)).
- ✓ The pattern is then rotated around the pinned dart point until the dart leg b lines up with the traced dart leg a. (closes waist dart and opens space for the mid-neck dart).
- ✓ Trace the remaining section of the pattern from dart leg b to point c on the pattern. (shaded area in figure) (fig. 1.3 (b)).
- ✓ Draw the dart leg to bust point.
- ✓ Mark the centre the dart point 5/8" from the bust point. Redraw dart legs to the dart points. (fig. 1.3 (c)).



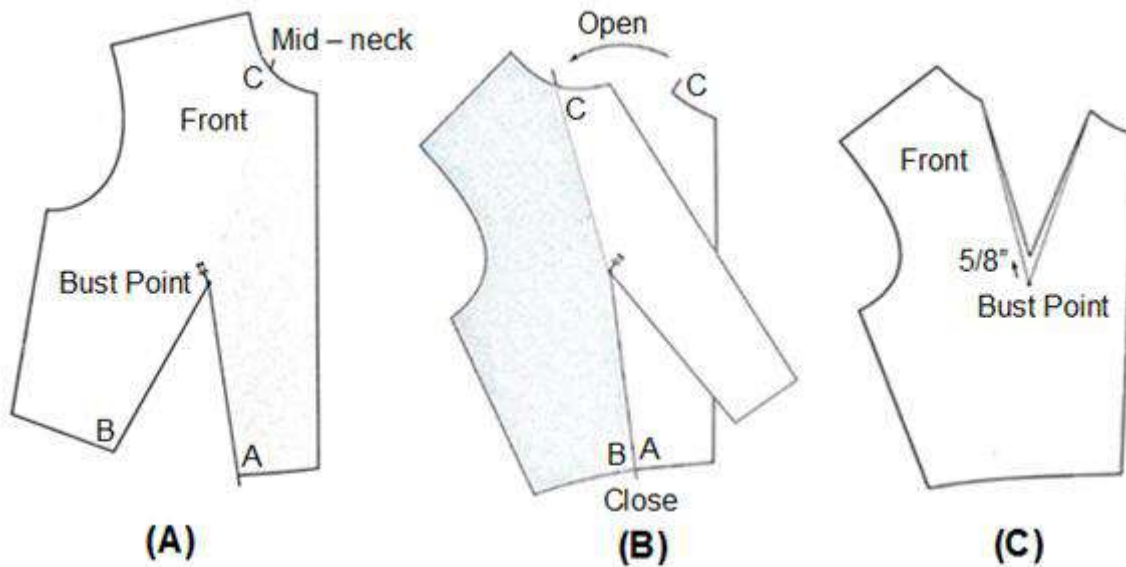


Figure 1.3: pivotal transfer

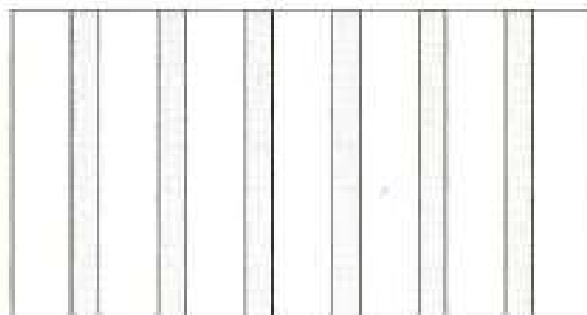
- **Adding fullness**

To increase fullness in a garment to an amount greater than the dart excess provides; the length and/or width within the pattern's frame must be increased. Adding to the outside of the pattern's frame increases the amount of fabric in a garment and can change the silhouette.

- **Three types of added fullness**

To add fullness, the working pattern is increased in one of three ways:

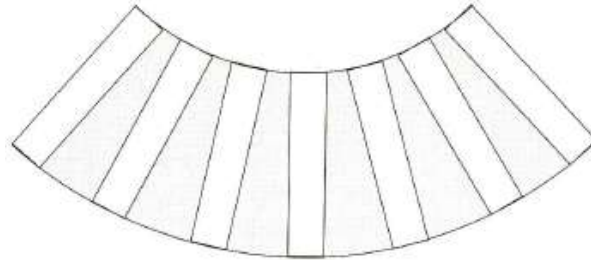
Equal fullness opposite sides of a pattern are spread equally, increasing fullness to top and bottom.



One-sided fullness one side of a pattern is spread to increase fullness, forming an arc shape at the top and bottom.



Unequal fullness one side of the pattern is spread more than the other, forming an arc shape at the top and bottom.



Compare the silhouette differences between the design and the basic garment when adding fullness.



## • Contouring

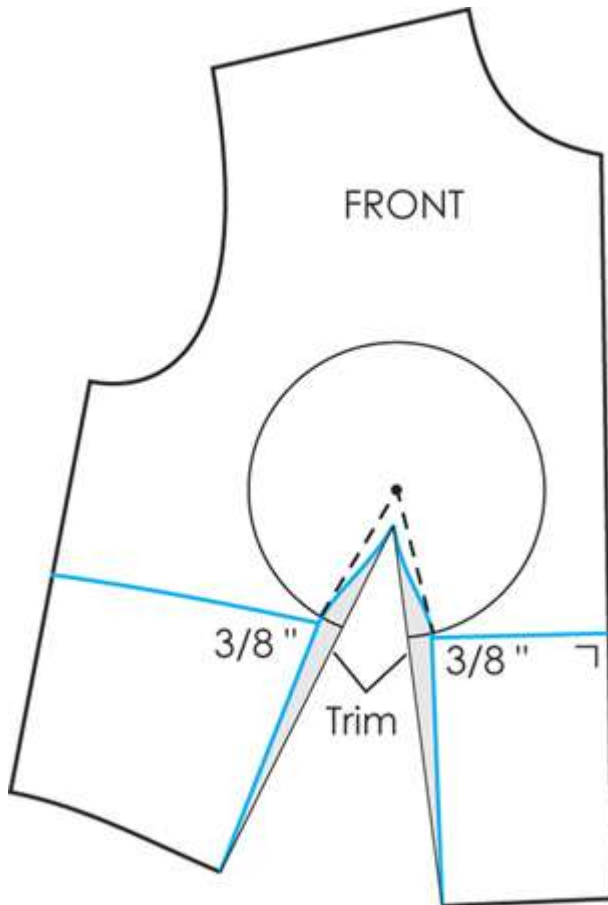
To fit the contours of the upper torso closer than does the basic garment, the pattern must be reduced within its frame to fit the dimensions of the body above, below, and in between the bust and shoulder blades. To fit the upper torso closer than does the basic garment, the outline of the pattern is trimmed to fit the slope of the shoulder and the side seam ease is eliminated.

- ✓ Fitting to the contour above, below, and between the bust, leaving the dart excess to be absorbed into style lines or gathers.

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- ✓ Gapping ease caused by cutout neck lines and armholes is transferred to be absorbed.



**Self-check 1****Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page.

- I. What flat pattern making:?( **3 point** )
- II. Write Types of pattern making methods(**5 point**)

**Note: Satisfactory rating –8 points                      Unsatisfactory - below 8points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

1. \_\_\_\_\_  
\_\_\_\_\_

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

Name: \_\_\_\_\_

date: \_\_\_\_\_



## Information sheet 2 documenting methods and formulas use

2.1 In pattern making the formula of document method is the pattern to put depended on each size and characteristic. It means the small by small. Size medium size by medium size. Large size by large size. XL size by XL Size. XXL by XXL size and so take code for the all component of each patterns.

A pattern description must address the following major points:

### Pattern Name and Classification

A short meaningful name for the pattern, usually only one or two words. Names provide a vocabulary for patterns, and they have implied semantics – choose names carefully. Following the GoF book, we can also group patterns into higher level classifications such as creational, structural, and behavioural patterns.

### Problem

A general description of the problem context and the goals and constraints that occur repeatedly in that context. A concrete motivational scenario can be used to help describe the problem. The problem description should provide guidance to assist others in recognizing situations where the pattern can be applied.

### Solution

The classes and/or objects that participate in the design pattern, their structure (e.g., in terms of a UML class diagram), their responsibilities, and their collaborations. The solution provides an abstract description that can be applied in many different situations. Sample Code in an object-oriented language can be used to illustrate a concrete realization of the pattern.

### Consequences

A discussion of the results and tradeoffs of applying the pattern. Variations and language-dependent alternatives should also be addressed.

### Known Uses

Examples of the pattern in real systems. Look for applications of the pattern in language libraries and frameworks, published system descriptions, text books,

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etc. Not every good solution represents a pattern. A general rule of thumb is that a candidate pattern (also called a “proto-pattern”) should be discovered in a minimum of three existing systems before it can rightfully be called a pattern.

The following quote by Robert Martin highlights the importance of providing pattern descriptions: “The revolutionary concept of the GoF book is not the fact that there are patterns; it is the way in which those patterns are documented

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**Self-check 2****Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page.

I. What is documenting methods of pattern : ? (3 point )

**Note: Satisfactory rating -3 points**

**Unsatisfactory - below 3 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

1. \_\_\_\_\_  
\_\_\_\_\_

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

1. \_\_\_\_\_

Name: \_\_\_\_\_

date: \_\_\_\_\_



### Information sheet 3 checking pattern pieces

A true pattern is a pattern that all seams fit perfectly together as you would assume all finished, for purchase, patterns are. Well, sometimes, just like finding an editing error in a printed book, sometimes, a pattern you buy is not true. The side seams are not the same length or the waist band is smaller than the waist seam in the pants. It happens. It happens when we draft patterns and alter patterns and size them up or down. Only we never expect it to happen to a pattern we spent good money on.

The project I'm currently sewing had this problem. A simple six panel skirt which the panels don't line up very well. Every panel has a swooped up hem at the seam so the finished skirt (sewn up just as the pattern was cut) would have a scalloped hem. No, this wasn't a design feature.

When I finished sewing the skirt panels together I thought I had messed up. I started down a spiral of self doubt about my sewing skills. But wait, I didn't mess up. The pattern must be goofy. I checked. Sure enough, the seams were off.

You shouldn't have to check your pattern for mistakes like these especially since the retail price is more than most finished garments at Old Navy but you do. Check the major seams, like side seams and waist bands and some front facings depending on the style. The cheaper the pattern the more important to check. So check any pattern you get from a book featuring a lot of different sewing projects or a magazine or the budget line of a major pattern company

Check all pattern pieces of a garment and then label all or some of the following pattern information and cutting instructions as the required.

- **Style number or code number** of the pattern set may be evolved e.g. Ab 01 here ab identify type of the garment and 01 identify the piece number of complete set. If there are 5 pattern pieces in a garment, the pieces will be numbered as ab 01, ab 02, ab 03, ab 04 and ab 05. Pattern piece e.g. Skirt front, skirt back, side front etc. Size as 32, 34, 36, or s, m, l etc.

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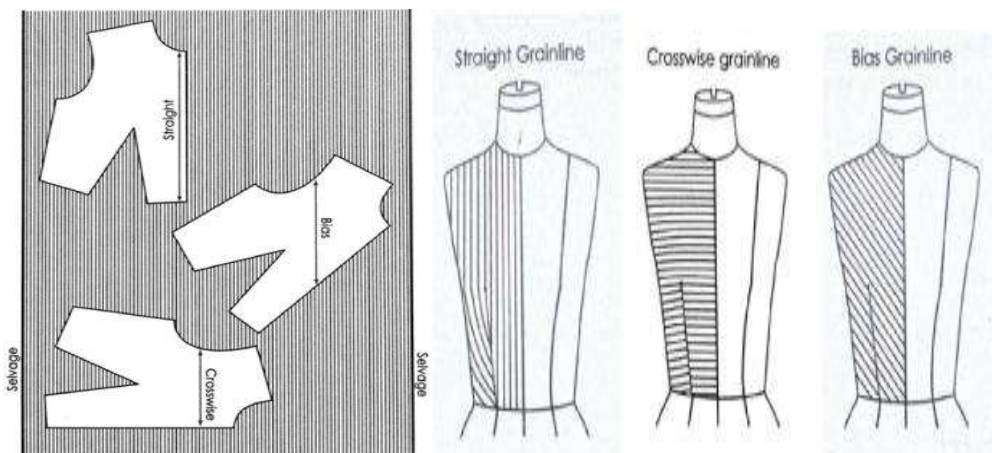


- **Cutting information** - it should be clearly mentioned as to how many pieces are to be cut e.g. Cut 1, cut 2, cut on fold.
- **Directional fabrics** - for fabrics which have designs in one direction such as floral print, stripes, plaid, velvet, fur etc. A symbol "cut one way" is indicated on the pattern.
- **Balance:** refers to hang and proportion of the garment. Fashion does determine balance to a certain extent, for example is it appropriate to wear long tops over short skirts. Where the flat pattern cutting is concerned it is often difficult to judge correct balance until the garment is test-fitted in fabric.
- **Balance marks:** marks made on edges of complimentary pattern pieces that indicate corresponding seam line and area. They are a useful construction guide on all seams. However, balance marks are vital in a pattern if two pieces have different edge or shape that are required to be joined or where one seam line is longer or fuller than another. While doing pattern cutting make short pencil marks at the edge of the paper, copying them through all stages till the final pattern. On readymade paper patterns balance marks are indicated by triangles and are referred to as notches.
- **Muslin:** muslin is used for making test fits. This is basically an unbleached plain woven cotton fabric. It is available in light, medium and heavy weight. Medium quality is used for test fitting and draping.
- **Pattern:** it is developed from the block that includes all the information needed for cutting and production of the garment including seam allowance. A series of pieces (usually tissue or other paper) which is laid on the fabric for cutting the individual sections of a garment before assembly or a pattern is the paper or cardboard template from which the parts of a garment are traced onto fabric before cutting out and assembling (sometimes called paper patterns).
- **Seam allowances:** the distance between the stitch line and the edge of the seam. The amount of seam allowance required for each seam line may vary depending on the location and end purpose. Generally the seam allowances as followed in the industry are:
  - ✓ ¼" - for sharp curves
  - ✓ ½" - for smoother curves like neckline, armhole, waistline, style line, etc.

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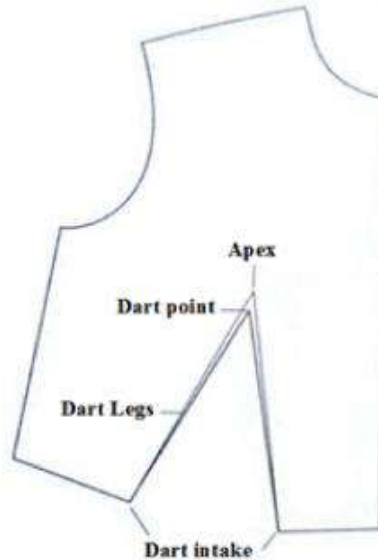


- ✓ 1" - for straight seam line like side seam, centre line, shoulder, plackets, etc.
- ✓ 2" - for straight edge hem line in dresses, skirts, etc.
- **Ease:** the amount of extra fabric allowed for movement and/or style in a garment or ease is the amount of a garment allows the wearer beyond the measurements of their body. Fitting ease (wearing ease) is the minimum amount of room needed for comfort and movement, usually 1-1 ½" more than the body measurement. Style ease (design ease) is additional ease added to achieve the desired style (such as a full skirt or a full sleeve, or an oversized silhouette).
- **Grain line:** grain line is a line drawn from end to end on each pattern piece to indicate how the pattern should align with the lengthwise grain of the fabric. The pattern pieces will always be placed parallel to the selvage on the fabric in the direction in which the grain line is drawn on the pattern.



- **Dart:** wedge shape or triangular shape marked on the pattern that controls the fit of the garment. Or it is diamond-shaped tuck stitched into a garment to control fullness and make the garment conform to the shape of the body.
  - **Dart legs** - the two sides of the triangular shape & should be of the same length.
  - **Dart point** - the point at which the dart ends.
  - **Dart intake** - the amount of suppression taken between the dart legs.
  - **Apex** - the highest point on the bust

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- **Selvage:** the tightly woven edge of fabric along the lengthwise grain which generally does not fray due to the manufacturer's finish.
- **Notches** are marks used to identify corresponding points along pattern cutting lines to identify where pattern pieces are to be joined together. This is particularly useful when joining convex and concave curves such as sleeves and armholes or a straight piece and a curved piece, such as a waistband and a skirt.

Notches are marks along the seam allowance of a pattern that help in aligning pieces when sewing, and can also identify the front or back of a piece (see below - one notch indicates the front, two notches indicates the back of a sleeve, crotch curve, etc).

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**Self-check 3**

**Written test**

**II. Choose the best answer for the following question (2pts each)**

1. One of the following is the point at which the dart ends ? (2pts)

A. Selvage                      C. **Dart point**

B. Notches                      D. All

2. Which one of the following is durability characteristics ( 2pts)

A. Dart legs                      C. Apex

B. Dart point                      D. Dart intake

**Note: Satisfactory rating -2 points**

**Unsatisfactory - below 2 points**

You can ask you teacher for the copy of the correct answers.

Answer sheet

Name: \_\_\_\_\_ date: \_\_\_\_\_

Choose

1. \_\_\_\_\_

2. \_\_\_\_\_

Score = \_\_\_\_\_

Rating: \_\_\_\_\_



Operation sheet 1 prepare pattern for garment making

**Direction:** by using the following steps prepare pattern.

**Step 1-** clean the work station

**Step 2-** take the selected block

**Step 3-** applying advanced patternmaking principles to prepare pattern

**Step 4-** prepare patterns for trouser, shirt

**Step 5-** label all pattern pieces with pattern information

Lap test practical demonstration

Name: \_\_\_\_\_ date: \_\_\_\_\_

Time started: \_\_\_\_\_ time finished: \_\_\_\_\_

**Instructions:** given necessary templates, tools and materials you are required to perform the following tasks within required hours.

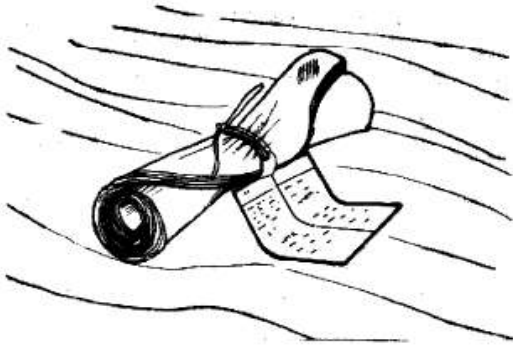
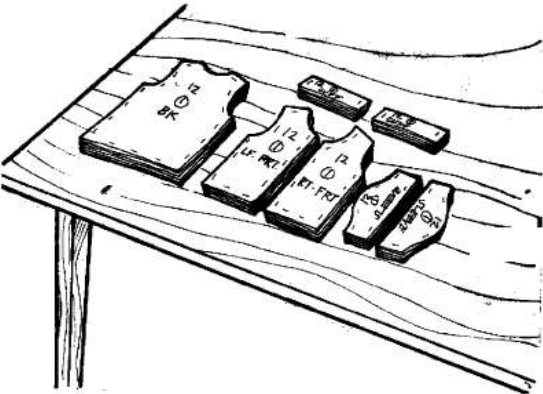
**Task 1:** prepare pattern for garment making

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**Information sheet 4 labelling all pattern pieces**

**4.1 label all pattern pieces**

Labeling is the system of coding take the same size e.g for the component of one skirt front. Back. Waist band if the front coding is 01 and back and waist band is the same has that. The pattern pieces not on the fold. Your piece is straight if the grain line is parallel to the salvage of your fabric. You need to use a tape measure and rule to measure the distance from the grain line of your piece to the salvage of your fabric. Pin on end of your grain line and measure its distance from your fabric selvage





<b>Self-check 4</b>	<b>Written test</b>
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**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page.

I. What is labeling ? (3 point )

**Note: Satisfactory rating 3 points**

**Unsatisfactory - below 3 points**

You can ask you teacher for the copy of the correct answers.

Name: \_\_\_\_\_ date: \_\_\_\_\_

Answer sheet

1. \_\_\_\_\_  
\_\_\_\_\_

Score = _____
Rating: _____



<b>LG #21</b>	<b>LO #5- test and finalize pattern</b>		
<b>Instruction sheet</b>			
<p>This learning guide is developed to provide you the necessary information regarding the following content coverage and topic</p> <ul style="list-style-type: none"> <li>• Testing toile or garment segments.</li> <li>• Performing fitting of the prototype.</li> <li>• Assessing and completing pattern alterations.</li> <li>• Finalizing and checking patterns.</li> <li>• Directing final patterns to the next production process</li> </ul> <p>This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:</p> <ul style="list-style-type: none"> <li>• Test toile or garment segments.</li> <li>• Perform fitting of the prototype.</li> <li>• Assess and completing pattern alterations.</li> <li>• Finalize and checking patterns.</li> <li>• Direct final patterns to the next production process</li> </ul>			
<b>Learning instructions:</b>			
<p>Read the specific objectives of this learning guide.</p> <ol style="list-style-type: none"> <li>1. Follow the instructions described below.</li> <li>2. Read the information written in the “information sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.</li> <li>3. Accomplish the “self-checks” which are placed following all information sheets.</li> <li>4. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (you are to get the key answer only after you finished answering the self-checks).</li> <li>5. If you earned a satisfactory evaluation proceed to “operation sheets</li> <li>6. Perform “the learning activity performance test” which is placed following “operation</li> </ol>			





sheets”

7. If your performance is satisfactory proceed to the next learning guide,
8. If your performance is unsatisfactory, see your trainer for further instructions or go back to “operation sheets”.

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## Information sheet 1 testing toile or garment segments.

### 1.1 Measurement and fitting tests for garment inspections

Garment manufacturing is one of the complex form of production. Many factors affect the final aspect of garments: the fabric, the sewing, the design, etc. During a garment inspection, various tests are performed to check that the goods are well produced and the customer will be able to wear them normally. The measurement test and the fitting tests for garment inspections are the two testing methods utilized the most for this purpose.

- **Measurement tests for garment inspections**

The principal is simple, the objective is to control that the size chart, provided by the buyers, matches the goods manufactured. To do so, the quality inspector puts 3 sets of garments, per size, on a table and measures each one of them. The measures taken are the ones that are indicated on the size chart, to compare both results.

Note: the sample size for this test can vary depending on the buyer's requirements.

- **Fitting tests for garment inspections**

The fitting test shows how the product will look when worn. To execute this test, the quality inspector performs a test on mannequins as per above, or on real models if available. He puts each garment on the mannequin and performs a general check. The garment should properly hold and look nice, as per the reference sample provided.

Most of the time, only one mannequin is available at the factory, this mannequin shape usually refers to the basic size or middle size: m. Therefore, the fitting test is only performed on one size sample.

- **Why both test methods are important**

The measurement test ensures that the product has been manufactured at the right dimension; however, it does not always show discrepancies that are only visible when performing a fitting test.

Both test methods are complementary and should not be omitted from a garment inspection protocol. For instance, recently an inspection on jackets was performed and it was determined that even with the right dimensions, the final look was bad. The reason

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was the lining (on the inside of the sleeve) was shorter than the outside, so it resulted as an overall bad look.”

And you: do you request to perform the fitting tests for garment inspections and the measurement checks?

As each design project is completed, the design should be cut in muslin (or fabric chosen for the design) and placed on a form or model for a test fit. One-half of the garments are needed when fitting the form (unless it is an asymmetrical design, which requires a full garment). A full garment is required when fitting the model. Seam allowances can be added in one of two ways for a test fit:

- ✓ The seamless pattern can be traced on cloth, adding seam allowance directly on the fabric.
- ✓ Seam allowances can be added to the pattern before cutting in cloth.

The garment should be stitched using 6 to 10 stitches per inch. The seams are pressed (without steam), and the garment is placed on the form or model for test fitting. To complete the pattern, use the general pattern information on pages 60 and 61 as a guide.

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Self-check -1	<b>Written test</b>
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**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page:

II. **Write the correct answer for the following questions(3 points each)**

1. What are the two types of garment testing?
2. Write the importance of garment testing.

**Note: Satisfactory rating -3 points                      Unsatisfactory - below 3 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_

date: \_\_\_\_\_



## Information sheet 2 performing fitting of the prototype.

### 1.1 Standards for making good fit garments

A good fitting is achieved by doing the work with care, patience, and practice. A well-fitted garment feels comfortable, adjusts naturally to the activities of the wearer, and is becoming in line and amount of ease and consistent with current fashions.

Techniques of good dressmaking are essential to good fitting and good designing. Some of the skills are to be mastered are placing patterns, true with the grain, cutting accurately along lines, stitching and pressing darts, basting by hand and by machine accurately, stay-stitching with the grain, ease in fullness, shrinking out fullness, tailor pressing, machine stitching exactly on the proposed line and corner, invisible hemming, making, piped buttonholes and slide fastener plackets, applying to face and interfacing, and setting a sleeve smoothly in the armhole. These construction skills are certainly fundamental.

- **Factors which determine a good garment fit**

Five basic factors present in every fitting decide whether a garment fits well or not. There are ease, line, grain, set, and balance. These five factors are interrelated. The straight material should be folded into darts or cut into seams to allow enough ease over the curves. Wide darts are stitched to control the excess material to give well.

A well-fitted garment is a source of satisfaction and looks nice. A well-fitted garment has the optimum amount of ease and its seam lines follow the general silhouette of the body. Any fitted garment is judged by its appearance on the wearer and its success depends a great deal on its fitting. Fitted garments are comfortable and allow the wearer to perform normal activities. They also fit snugly on the body of the wearer.

It drapes neatly and sets without any wrinkles without sagging or projecting out and will also be well balanced. To get a well-fitted garment the patterns which are selected should be checked properly and they should possess a good shape and proportion.

While cutting the garments, it is necessary to follow certain accurate steps. Most of the

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human figures might not be perfect or proportionate and therefore alterations and corrections are to be made.

It is essential that after drafting a particular garment it should be tried on a body so that the necessary alterations of the patterns are done. Apart from the major defects of the body, there may also be certain minor defects, which should be taken care of while drafting the garment. To get a good fit, the planning of patterns along the side of the grain, cutting accurately, stitching and pressing of darts and ease in fullness and machine stitching should be done exactly on the proposed line. The sleeves should be fixed smoothly and evenly in the armhole.

The factors, which determine whether a garment has a good fit or not are ease, line, grain, set and balance. They are referred to as the standards for a good fit and they are also interrelated to one another.

#### **A. Ease**

The garment, which seems to be right size is neither too loose nor too tight. Ease is also the difference between the actual body measurements and garment measurements. This amount varies with the fashion, type of garment and personal taste. A garment constructed with optimum ease would be the right size.

#### **B. Line**

The basic silhouette shows the lines in a garment. The circumference lines include neckline, armhole, waist line and wrist line. Lines should be smooth without folds and neat. There should be smoothly graded curves in back and front. Armhole should be oval, but not pointed or round in shape. It follows natural creases made where the arm joins the body. The curve lines should not be too low which will hinder the movements of the hand.

#### **C. Grain**

The placement of warp and weft yarns form grain. It denotes the direction of the threads. Usually, the lengthwise or warp threads are heavier than crosswise or filling threads. Heavier threads tend to drape well on the figure with graceful folds when gathers, pleats, and ruffles occur on the straight grain. Lengthwise grain should be perpendicular to the floor, at the centre front and centre back, unless, off grain seams are present. The crosswise yarns are parallel to the floor at the centre front and centre back. On the bust

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and hiplines, the grain on the right half of the garment should match that on the left half except in the case of asymmetric draping. If the crosswise grain covers up or down where it should be parallel with the floor it is because of some bulge or hollow in the body directly above the curve. If the grain line is not corrected, wrinkles or sagging occur. Sometimes the grain line is off when the material is not cut carefully.

#### **D. Set**

A well-fitted garment has a smooth set without any wrinkles. The slanting wrinkles are caused by the garment being strained over some curves or bulges of the body. Slanting wrinkles in sleeves and near the shoulder are unbecoming and uncomfortable. Crosswise wrinkles occur because the circumference below them is fitted too tight.

The wrinkles point towards the shoulder blade is caused by protruding shoulders. To remove them, extra length and width should be provided for the garment.

A smoothness of “set” or freedom from wrinkles is required for a good-looking fit. Graceful folds created by gathers or un pressed pleats or draped features are style lines not to be confused with wrinkles, those slanting triangles straining from some curve or bulge of the body.

#### **E. Balance**

The garment should look balanced from left to right and front to back. The skirt should hang so that it extends the same distance from the centre to the right and left sides. The necklines should fit neck snugly at all points. If the shoulder seam stands away from shoulder at neck point and fits tightly at armhole point, the garment will look out of balance.

- **Reasons for poor fitting**

- ✓ When the garments are carelessly cut and if stitching is not done properly then the garment will have a poor fitting.
- ✓ If the basic patterns are not of the right size or if they are not altered according to the body measurement then poor fitting occurs. Poor posture might be the reason for differences in the bodice blocks. Such a style of the garment is not suitable for the wearer. The human body has numerous curves of which the basic ones are bust, end of the shoulder, shoulder blade, elbow, abdomen, side, and hip. The garment should be cut and stitched accurately to fit on the curves of the body.

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- ✓ The straight material should be folded into darts are cut into the seam to allow enough ease over the curves. Wide parts are stitch to control the excess material to give good fitting.

- **Solving fitting problems**

- ✓ Each garment should be checked for ease, comfort, line, grain, set, and balance. If wrinkles or diagonal folds are observed then the stitching should be released at the bulge areas. It is easier to correct the neckline than to correct the sleeve and the armhole. The material from the seam allowances can be used to increase or decrease the fullness at the bust line. While cutting, the patterns should be placed parallel to the selvedge so that the length of the garment will be along the selvedge side.
- ✓ While stitching the armhole and neckline should be taken care of. To get a good fitting in the garment it is better to keep 2.5 cm to 2 cm extra material at the back, shoulder seam, underarm and side seam. While stitching the armhole & neckline should be taken care of while stitching for a good fit accurate pinning, marking, tacking and stitching should be done. The bust lines darts should not have pouches or creases at the end.
- ✓ Fullness should be evenly distributed without irregular or be puckering pleats facings and hems should be finished smoothly. To neaten the seam edges ironing should be done after every shape. The garments should not be too tight as the figure defects will be more noticeable.
- ✓ To get the good fitting in a garment accurate measurement should be taken and patterns are drafted on brown papers.
- ✓ The garment should be tacked without sleeves, collars or facings and tried on. The openings are pinned together accurately, properly and securely. The basting line that marks centre front, and back helps in giving a good fitting.
- ✓ The garment should be worn right side out to check the fitting on the body. The garment is thoroughly inspected and carefully analyzed for fitting. It should be comfortable while walking or working. If any alterations or corrections are to be made on the garment then it is done either by cutting, tacking, pinning or marking on the garment.

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- ✓ Mark the correct line with tailors chalk and tack the corrected seam line or dart line from the inside of the garment. Fitting should take care of the major alterations in the bodice. The left and right side patterns should be the same. The paper patterns should also be altered on the basis of changes made in the garment.
- ✓ Until a satisfactory fitting is achieved, repining and alterations for fitting is done. In the second round of checking the fitting, the concentration must be on the sleeves and arms. Necklines, waistlines should be curved to fit comfortably and naturally.
- ✓ The patterns which are altered for good fitting should be preserved. Constantly compare the drafted pattern with the body measurement for accurate fitting before cutting any garment, as there may be changes in the body measurement. A dress should look nice from the back as it is from the front. The back should be more carefully fitted since there is a strain.
- **Good fit are influenced by many things such as:**
  - ✓ The current fashion look,
  - ✓ The hang and stretch of the fabric,
  - ✓ The amount of ease preferred and
  - ✓ Figure size and type.
  - ✓ Pattern alteration:

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<b>Self-check 2</b>	<b>Written test</b>
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**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page:

**I. Write the correct answer (5 points each)**

1. Write at least five characteristics of good fitted fabrics.
2. Explain the factors which determine a good garment fit.

**Note: Satisfactory rating -5 points**

**Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

date: \_\_\_\_\_



## Information sheet 3 assessing and completing pattern alterations

### 3.1 pattern alterations

If your measurements do not fit one of our sizes you should go with either the closest chest or hip measurement, depending on the pattern in question. We recommend that you choose the size with the closest chest measurement for tops, dresses and coats, and the closest hip measurement for pants and skirts. This way the other measurements in the pattern will be easier to alter.

Always remember to measure the pattern and compare the measurements to your own. You should always check the measurements of at least the bust, waist and hip, and on skinny trousers also the thigh, knee, calf and ankle. In addition to these, it is always good to check the length from shoulder seam to hem, and from pants the length of inner leg.

You can also try the pattern by making a toile from a different material before cutting the actual fabric. The toile does not need to be an actual finished garment – just sew the most essential seams to see whether the garment fits or not, and make the pattern alterations according to that.

- **Altering the length:**

If the garment is too short or too long, you can lengthen or shorten the pattern before cutting the fabric. Usually you can make the alterations on the horizontal dashed lines marked on the patterns, such as elbow line, waistline or a hip line. On sleeves you can alter the length on the elbow line, on dresses on the waist and hip line and on trousers and skirts on the knee line.

- **Altering the width of a pattern:**

- ✓ Altering the width of a pattern from seam:
- ✓ Altering the width of a pattern from waist darts:

**Altering the proportions of a pattern:**

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For altering proportions, follow the shortening, lengthening and width altering instructions by shortening, lengthening and adjusting the width of the pattern on each part according to your own measurements.

- **A pattern can be altered and adjusted three ways:**

- ✓ By folding out excess fullness to make an area smaller.
- ✓ By slashing and spreading to increase dimensions, or slashing and overlapping to decrease dimensions.
- ✓ By redrawing darts or seam lines.

- **Basic rules or techniques of pattern alteration:**

- ✓ All similar pieces must be altered to correspond with the alterations on the major piece.
- ✓ Additions or extensions must be made by taping an extension strip to the edge involved.
- ✓ Altered patterns must have the same character as the original pattern piece.
- ✓ Correct movement on altered pattern to give the altered line the same character as the original line.
- ✓ The altered pattern must be properly flat, as like the original pattern piece.
- ✓ Principles of pattern alteration:
  - ✓ A far as possible make changes within the pattern by slashing and spreading or slashing and lapping. Patterns can also be altered by redrawing the edges of the pattern. (this is the method adopted for altering garments at the time of fitting.) But the first method is by far the best in altering paper patterns.
  - ✓ To preserve the original grain line, make all slashes and folds parallel or perpendicular to the grain line (to center front line, center back line etc).
  - ✓ Where there are darts, make changes between the tip of the dart and the outside edge.
  - ✓ If an alteration in length is made along one edge of the pattern, take care to make an identical alteration in the adjoining edge. For example, if back shoulder seam is shortened the front shoulder seam should also be shortened.
  - ✓ When tucks or darts are used for making a pattern smaller, remember that the width of these should be just half the amount to be removed.

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- ✓ When decreasing or increasing the width of pattern pieces, if only half the pattern (half back or half front) is used, subtract or add only one fourth of the total adjustment to be made. For example, if waist measurement has to be increased by one inch, add ¼” to the half back pattern and the same amount to the front pattern. If only a front or back section needs adjustment, add or minus half the amount of the adjustment to the respective section.
- ✓ When the pattern alteration involves slashing and spreading, it is necessary to keep a sheet of paper beneath and to pin or stick to it the spread-out parts so that they will thereafter remain in position. On spreading or lapping after slashing, some edges of the pattern become jagged. These must be trimmed after drawing the new seam lines.

- **How to check the altered fit:**

Before cut the fashion fabric check the pattern fit, only the basic parts of the garment together. Take a helping person who helps you to check the fit of the garment. Otherwise you stand in front of a full-length mirror. Use the following checklist that helps you, if further alterations or minor fitting is needed for a good fit.

- ✓ Adequate wearing ease is available for sitting, moving and bending.
- ✓ Armhole seams curve smoothly over the end of shoulder.
- ✓ Crosswise grain lines are parallel to floor.
- ✓ Crotch depth is right, neither too low and baggy nor too tight and binding.
- ✓ Darts point to the fullest part of the curve.
- ✓ Hemline is even.
- ✓ Hipline fits smoothly.
- ✓ Lengthwise grain lines, side seams, center front and center back seams hang straight or at right angles to the floor.
- ✓ Pant legs hang smoothly and do not restrict any part of the legs.
- ✓ Pants hang smoothly from the waist. The waistband fits the body comfortably and stays in place when bending and sitting.
- ✓ Pants have no pulls or excess fabric across the front or back crotch level.
- ✓ Shoulder seam length comes to end of shoulders.
- ✓ Sleeves are comfortable with no wrinkles.

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- ✓ The length of the garment is becoming.
- **As you alter the pattern, remember these guidelines:**
- ✓ Keep all fabric grain lines, the center front, and the center back on the fabric's straight of grain.
- ✓ Make adjustments carefully in order to preserve the garment's original style or design lines.
- ✓ Maintain ease allowance for comfort.
- ✓ Whenever possible, use adjustment lines already provided on a pattern.
- ✓ When you alter a pattern, make corresponding changes on all related pieces.

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**Self-check 3****Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page:

**I. Write the correct answer for the following questions.**

1. Define pattern alteration. **(2 points)**
2. Write at least five basic rules or techniques of pattern alteration **(5 points)**
3. Write the ways of pattern alteration. **(3 points)**

**Note: Satisfactory rating -10 points**

**Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_

date: \_\_\_\_\_



<b>Operation sheet 1</b>	<b>Test and finalize pattern</b>
--------------------------	----------------------------------

**Direction:** by using the following steps test and finalize pattern.

**Step 1-** clean the work station

**Step 2-** cut the prepared pattern

**Step 3-** takes a muslin fabric

<b>Lap test</b>	<b>Practical demonstration</b>
-----------------	--------------------------------

Name: \_\_\_\_\_ date: \_\_\_\_\_

Time started: \_\_\_\_\_ time finished: \_\_\_\_\_

**Instructions:** given necessary templates, tools and materials you are required to perform the following tasks within required hours.

**Task 1:** test and finalize pattern





## Information sheet 4 Finalizing and checking patterns.

### 4.1 Construction detailed information of a pattern

The following construction detailed information should be recorded and marked clearly on the pattern after altering to aid in further processes.

- Identification mark of every pattern piece by its name (bodice front, bodice back, sleeve, etc.).
- Number of pattern pieces to be cut with each pattern piece.
- If seam allowances are not included in the draft, this should be pointed out in the pattern. If it is included, then seam and cutting lines should be clearly drawn on the pattern.
- Length grain line should be marked in a different color pencil on every pattern piece.
- Notches should be provided for easy matching of components while sewing.
- Centre front (cf) as well as centre back (cb) lines should be marked in the block pattern.
- Fold lines in the pattern should be clearly marked and should be visible to show the location where the material should be folded.
- Dart and pleat markings, etc. Should also be marked clearly on the pattern.

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**Self-check 4****Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page:

**I. Write the correct answer for the following questions.**

1. Write construction detailed information of a pattern. **(5 points)**

**Note: Satisfactory rating -5 points**

**Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

date: \_\_\_\_\_



## Information sheet 5 directing final patterns to the next production process

### 5.1 Directing final patterns to the next production process

Creating patterns for clothing production is a skilled practice. The detail and technique behind each pattern ensure that garments are made to specification with a minimal margin of error. Once you've designed your clothing, your sketches will need to be turned into technical drawings before patterns can be created.

For those who are new to fabric patterns, there are many resources and professionals that can assist in the process. Sew port provides an easy search function to filter your requirements and find designers who can take your ideas through to the development stage.



Final patterns

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**Self-check 5****Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page:

**J. Write the correct answer for the following questions.**

2. What is final pattern. (3 points)

**Note: Satisfactory rating -3 points**

**Unsatisfactory - below 3 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

date: \_\_\_\_\_



<b>L G#22</b>	<b>LO #6- document pattern preparation for production</b>		
<b>Instruction sheet</b>			
<p>This learning guide is developed to provide you the necessary information regarding the following content coverage and topic</p> <ul style="list-style-type: none"> <li>• Identifying size system for patterns and base size.</li> <li>• Preparing spreadsheet of full range for selected sizing system.</li> <li>• Preparing grade table for full size range.</li> <li>• Completing and attaching pattern specification sheets with trade drawings</li> <li>• Preparing work order for sizing labels</li> <li>• Storing finished pattern</li> </ul> <p>This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:</p> <ul style="list-style-type: none"> <li>• Identify size system for patterns and base size.</li> <li>• Prepare spreadsheet of full range for selected sizing system.</li> <li>• Prepare grade table for full size range.</li> <li>• Complete and attaching pattern specification sheets with trade drawings</li> <li>• Prepare work order for sizing labels</li> <li>• Store finished pattern</li> </ul>			
<b>Learning instructions:</b>			
<p>Read the specific objectives of this learning guide.</p> <ol style="list-style-type: none"> <li>1. Follow the instructions described below.</li> <li>2. Read the information written in the “information sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.</li> <li>3. Accomplish the “self-checks” which are placed following all information sheets.</li> </ol>			



4. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (you are to get the key answer only after you finished answering the self-checks).
5. If you earned a satisfactory evaluation proceed to “operation sheets
6. Perform “the learning activity performance test” which is placed following “operation sheets”
7. If your performance is satisfactory proceed to the next learning guide,
8. If your performance is unsatisfactory, see your trainer for further instructions or go back to “operation sheets”.

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## Information sheet 1 identifying size system for patterns and base size.

### 1.1 Sizing system

A sizing system is a set of pre-determined body sizes designated in a standard manner which is based on the body measurements taken on a cross section of the target population. This means that the system consists of a range of sizes from the smallest to the largest with fixed intervals between adjacent sizes

The sizing system shows the range of body measurements for each key dimension. In the anthropometric sizing system, the size chart shows the range of apparel sizes. US and European men's garment sizing standards include larger sizes than Asian standards in chest girth or waist girth.

There is no common agreement on terminology to describe the methods or systems that have been developed to provide a range of sizes to fit the population. For the purposes of this set of documents a sizing system will be defined as a set of sizes derived using common assumptions and methods of development, and size categories within a system will be defined as the various groupings of sizes as they would be presented in a retail situation. Thus the sizing system most commonly used for ready-to-wear in the United States makes use of a base size, often fitted to a fit model, and a set of sizes proportionately graded from this size. Examples of size categories include miss's sizes, petite sizes, plus sizes, etc. The foundation and concepts behind these proportional sizing systems are derived from 19th century tailor's drafting techniques. The technological advancements in sewing equipment, mass cutting technologies, distribution technologies, and mass production methods that were made about the same time contributed to the development of ready-to-wear using this sizing system as we know it today. Different technologies and methods of producing and distributing clothing make it possible to develop sizing systems based on entirely different concepts. A sizing system can be as simple as one-fits-all or small, or as complex as a system that provides a custom fitted garment for each individual.

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**Self-check 1**

**Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page.

1. What is a sizing system? (5 point )

**Note: Satisfactory rating – 5 points**

**Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

date: \_\_\_\_\_





## Information sheet 2 preparing spread sheet of full range for selected sizing system.

### 2.1 prepare spread sheet of full range for selected sizing system.

This, then, forms the base pattern size depending on the brand and the retailers target markets. Live-fitting models are preferred or used in conjunction with fitting mannequins as the live-fitting models are said to provide valuable information on the drape and the tactile aspects such as the feel of the garment to improve the designing process as opposed to using a static mannequin. However, at any given time, a particular company might produce several clothing lines or brands that may require different fitting models possibly of different ages with different body dimensions. Additionally, manufacturer's sizing systems may differ over time and the live-fitting model's body dimensions may also change with time; this further complicates the issue of the sizing and fit of garments that are produced for specific brands or target markets.

- Getting the correct body measurements is key, so it's important to take your body measurements carefully. It may be difficult to do this by yourself, so you may want to enlist a trusted friend to help.
- When taking your body measurements, wear the undergarments you normally wear for the most accurate results. Use your flexible tape measure, and hold it at each body point so that it's comfortably snug. If the tape is cutting into your flesh, it's too tight – if you have room in between the tape and your body, it's too loose.
- To get detailed instructions on taking and recording your body measurements correctly, click here – print out the handy “cheat sheet” to fill in, so you can have your measurements at your fingertips when you're ready to buy your pattern.

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- **Size chart**

A size chart is a body measurement chart recorded as a specific range of sizes for a specific target population. There are two types of size charts which should be developed for use in clothing. The one type is based on actual body measurements and is for the use of pattern technologists and graders. This chart is also the basis for selecting body dimensions for the live fit model and fit dummy prototype. The other type indicates the finished garment dimensions, which refer to the body measurement chart with added allowance for fit. This chart is used for size control and quality purpose.

code1	size code	Waist circum.	Hip circum.	Back crotch	Front crotch	Pant length	Inner seam	Hem circum.
S	76	74-78	84-87	22	17	88-92	62-67	27-29
M	80	78-82	87-90	23	18	92-96	67-72	29-31
L	84	82-87	90-93	24	19	96-100	72-77	31-33
XL	89	87-92	93-96	25	20	100-104	77-82	33-34
XXL	94	92-96	96-99	27	22	104-108	82-87	34-35

Table 2.2: sample size chart for shirt

Letter Code1	Size Code2	Neck	Front armpit	Shoulder	front body length	Chest circum.	Back armpit	Back body leng.	cuff	Sleeve leng.
S	34	33-35	21	41-43	60-61	85-87	23	65-67	21	55-57
M	36	35-37	22	43-45	61-63	87-89	24	67-69	22	57-59
L	38	37-39	23	45-47	63-65	89-91	25	69-71	23	59-61
XL	40	39-41	24	47-49	65-67	91-93	26	71-73	24	61-63
XXL	42	41-43	25	49-51	67-69	93-95	27	73-75	25	63-65

Table 2.1: sample size chart for trouser



<b>Self-check 2</b>	<b>Written test</b>
---------------------	---------------------

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page:

**I say true or false for the following question (4 pts each)**

1. A size chart is a body measurement chart recorded as a specific range of sizes for a specific target population

**Note: Satisfactory rating – 2 and above points**

**Unsatisfactory - below 2 points**

**Answer sheet**

Name: \_\_\_\_\_ date: \_\_\_\_\_

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

**True or false**

1. \_\_\_\_\_

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### Information sheet 3 preparing grade table for full size range.

#### 3.1 Grading

Grading, or pattern grading, is the process of creating a range of sizes for a single apparel style. The purpose of grading is to properly fit a pattern to a range of sizes. Grading will not create shape, but will only increase or decrease size of original shape.

After you have your pattern and your fit is approved for a middle-sized size, the pattern is “graded” for the range of sizes you want. The “grade rules” will allow for manufacturer to systematically increase or decrease the middle-sized pattern based on desired size. The “grade rules” refer to the amount of change between sizes, for each measurement point. Grade rules usually go 1” from 0-10, 1”1/2 from 12-16 and 2” up from the 18 with a 1/4” length from size to size. So a size 4 will only be graded down 1” (1/2” in the front and 1/2” in the back) to produce a size 2.

The "grade rules" refer to the amount of change between sizes, for each measurement point. For example, the bust, waist and hip "grade" 1" between sizes for most of the misses size range.

If you started with a size 8 dress and needed to make another one in a size 10, you'd make the bust, waist and hip 1 larger. You'd do this primarily by making the adjustment at the side seam, and distribute the 1" size difference evenly at each seam.

Since your dress has a front and back you'd adjust ½ each in the front and back. And since the front and back each have a left and right side, you'd divide that 1/2" in half again - so you'd adjust each seam (each side of the front and each side of the back) by 1/4" - the total will be a 1" difference between the sizes. Generally, you do not make adjustments at the center front or center back.

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	Grade rule between sizes Misses 4 - 18							
Measurement Point	4	6	8	10	12	14	16	18
Bust	+/- 1	+/- 1	+/- 1	+/- 1	+/- 1.5	+/- 1.5	+/- 1.5	+/- 2
Waist	+/- 1	+/- 1	+/- 1	+/- 1	+/- 1.5	+/- 1.5	+/- 1.5	+/- 2
Hip	+/- 1	+/- 1	+/- 1	+/- 1	+/- 1.5	+/- 1.5	+/- 1.5	+/- 2
CB waist length	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4
CB skirt length	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4
Sleeve length from shoulder	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4	+/- 1/4

CLOTHING PATTERNS 101.COM

**Self-check 3****Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page.

1. What is grading? (2 **point** )
2. What is a grade rule? (2 **point** )

**Note: Satisfactory rating – 4 points                      Unsatisfactory - below 4 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

date: \_\_\_\_\_



**Information sheet 4 completing and attaching pattern specification sheets with trade drawings**

**4.1 Band attach pattern specification sheets**

A spec sheet traditionally contains all your measurements for 1 sample size. It would have a technical drawing of the front and back of your design, plus your fabric info. A pattern maker could also use a spec sheet to create a pattern from too. Spec sheets were more popular a few years ago, before tech packs (which are much more comprehensive) caught on.

Specification sheets provide important details to ensure the correct execution of your patterns into finished garments. Spec sheets help to produce accurate samples, which improves turnaround time and simplifies communication during all stages of manufacturing and quality control.

A tech pack is an information package that can be used as a blueprint for your sample production.

**• A tech pack can include:**

- ✓ A pattern – a professional pattern of the garment with all relevant information included on it
- ✓ A specification sheet – it should include the following and will need to be re-issued whenever amendments are made to the garment
- ✓ Measurement/grade spec sheet: this will contain the various size measurements and poms (points of measure)
- ✓ Technical drawing: front and back line drawing with the measurement details for the garment. Drawn by hand or computer with close up view as necessary eg side view or specific details
- ✓ Material details: swatches, product code, fiber content and supplier details.
- ✓ Print or embroidery instructions: information regarding the type of print/embroidery if used including size and placement
- ✓ Stitch instructions: in reference to stitch type, thread to be used and stitch length
- ✓ Wash instructions: in reference to wash finishes for items such as denim garments

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- ✓ Accessory instructions: trim details – fastenings required with product codes, fiber content and supplier details.
- ✓ Label instructions: placement details for brand logo labels and care labels.
- ✓ Comments section: used by the factory to make a note of anything related to the product construction.
- ✓ Spec sheets include detailed technical diagrams, construction notes, finished garment measurements, fabric yields and material and trim details. We can tailor the format and information provided to suit your company's individual needs. All specs are in excel spreadsheet format and can be easily transferred through e-mail.

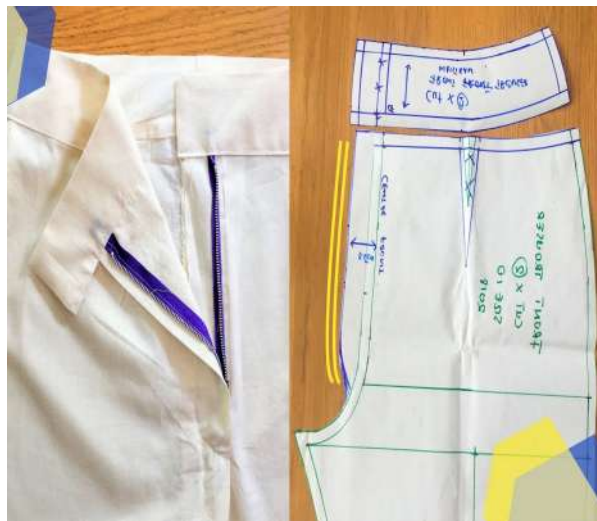


Figure 4.1

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**Self-check 4****Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page.

1. What a tech pack? (3 point )
2. Define specification sheet. (2 point)

**Note: Satisfactory rating – 2.5 points      Unsatisfactory - below 2.5 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

date: \_\_\_\_\_



## Information sheet 5 preparing work order for sizing labels

### 5.1. Prepare work order for sizing labels

#### Sizing labels

Labels type straight cut logo label - 55x25mm or folded logo label - 65x25mm

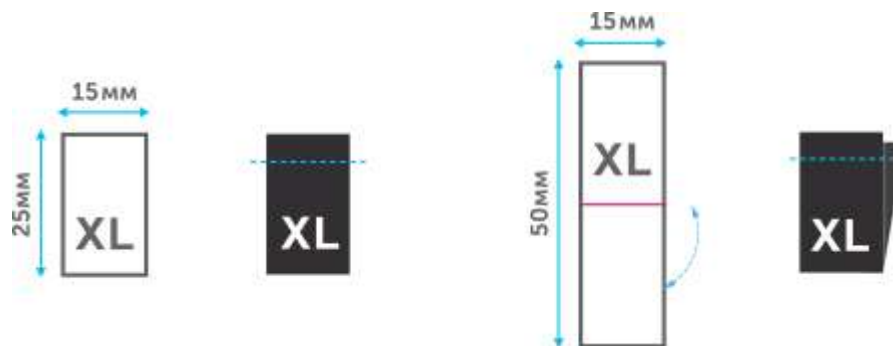
color base white base or black base

material satin, taffeta, polyester, cotton or other

quantities specify how many pieces!

Custom information logo in vector format or custom text

To select your pattern size, use your body measurements, not ready to wear size. All Simplicity patterns are multi sized to help you get a custom fit. Finished garment measurements are printed on the pattern tissue and on the back of many pattern envelopes. Compare these against the body measurement chart for your size. The difference is the amount of ease allowed. To take accurate body measurements follow the how-to- measure steps below. Periodically check your measurements for changes. To find your figure type use height and back waist length measurements and descriptions in measurement charts to determine figure type.



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Figure 5.1

**Self-check 5****Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page.

1. What a tech pack? (3 point )
2. Define specification sheet. (2 point)

**Note: Satisfactory rating – 2.5 points                      Unsatisfactory - below 2.5 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

date: \_\_\_\_\_



## Information sheet 6 storing finished pattern

### 6.1 Filing or storing finished pattern

Pattern storage, these are two little words that should roll off my tongue with ease. I mean, let's face it, as stitchery with a pile of patterns hidden in her stash; i should have this down pat. But to be fair, personal pattern storage has always been a challenge for me.

Once i unfold those commercial tissue paper patterns, i can never (no matter how hard i tried) get them back into that small envelope. That's right, i would fold them, refold them and try to stuff them into the original envelope and it would almost always end with in a ripped mess.

Over the years i have used several different methods and since these days patterns are made in different forms, i thought it would be fun to explore a few options.

Clockwise from the top left hand corner:

- Hang patterns industry style on metal hooks.
- This file folder idea from love it sews so much.
- Love this dish rack remix from crafty Gemini.
- Love this container project from Simple Simon & co.
- Sew couture transformed their empty paper boxes into storage.
- Check out this antique file cabinet on sews retro.
- Simple hanging file box by stardust shoes. (perfect for small spaces)
- Magazine holders can double as separators from my creative life.

Personally, i store my patterns in clear plastic poly envelopes. They have a snap closure and fit perfectly in my drawers. The bonus for me is that i do not have to worry about folding everything super neat and small. Instead, i can loosely fold them to fit, label the outside and know that they are safe and sound. Sometimes, i even put a picture of the finished garment on the outside and a swatch for a quick reference. The envelopes are super inexpensive (around \$1.00 each), come in an array of colors and can be found at any office supply store or big box chain store.

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I have the patterns stored in IKEA drawers – the anybody range is exactly the right size to stand the patterns upright. I have also scanned each cover and saved in files according to type so i can find a pattern without physically going through the patterns. Works perfect for me and they sit under my cutting table so it doesn't take up too much space.



**Figure 6.1:** file or store finished pattern

**Self-check 6****Written test**

**Directions:** answer all the questions listed below. Use the answer sheet provided in the next page.

1. How to file finished pattern? (5 point )

**Note: Satisfactory rating – 5 points**

**Unsatisfactory - below 5 points**

You can ask you teacher for the copy of the correct answers.

**Answer sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

date: \_\_\_\_\_



Answer key

Answer key

Answer key

Answer key

**LO1**

Info 1.

1. D

2. D

Info 2.

1. Ergonomic

Arrangement

In work place

Info 3.

1.C

2.C

**LO2**

Info1.

1. Flat

2. Tech sketch

3. Work in drawing

Info 2

1. A

2. B

3. B

Info3

1. B

2. B

3. C





<b>References</b>	<b>Written test</b>
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## AKNOWLEDGEMENT

We wish to extend thanks and appreciation to the many representatives of TVET instructors who donated their time and expertise to the development of this TTLM.

We would like also to express our appreciation to the TVET instructors, Oromia TVET Bureau and Federal Technical and Vocational Education and Training Agency (FTVET) who made the development of this curriculum with required standards and quality possible.

This TTLM was developed on the **December 24- 31/2020G.C at Bishoftu ..**

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