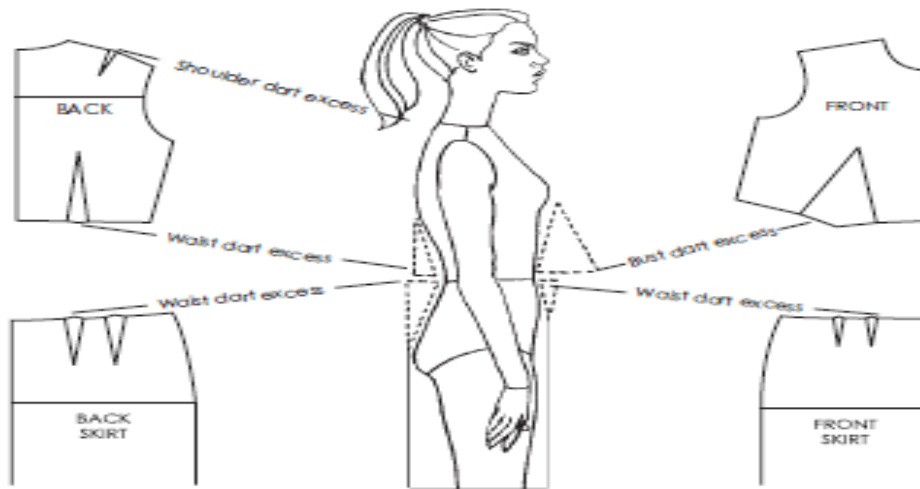


Fashion Design

Level-II

Based on March 2021, Curriculum Version1

Figure 2



Module Title: - Develop Basic Pattern sets

Module code: IND FAD2 M06 0222

Nominal duration: 80Hour

Prepared by: Ministry of Labor and Skill

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Ministry of Labor and Skills wish to extend thanks and appreciation to the many representatives of TVET instructors and respective industry experts who donated their time and expertise to the development of this Teaching, Training and Learning Materials (TTLM).

Introduction to the Module

In fashion design field ; Develop Basic Pattern sets is one most important vital operation in garment manufacturing industry.it helps to add qualities of production process , finishing and also the output of the manufacturer industry.

This module covers the units:

- Plan and prepare for workstation
- Take body measurement
- Assess physical characteristics
- Obtain measurements and interpret size standards
- Prepare basic block pattern
- Test patterns
- Complete Work

Learning Objective of the Module

- Planning and preparing for workstation Perform Measurement
- Understanding how to take body measurement
- Assessing physical characteristics
- Obtaining measurements and interpreting size standards
- Preparing basic block pattern
- Testing patterns
- Completing work

Module Instruction

For effective use this modules trainees are expected to follow the following module instruction:

1. Read the information written in each unit
2. Accomplish the Self-checks at the end of each unit
3. Perform Operation Sheets which were provided at the end of units
4. Do the “LAP test” giver at the end of each unit and
5. Read the identified reference book for Examples and exercise

Unit one: Plan and prepare for workstation

This unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Select and laying out materials, patternmaking tools and equipment

This unit 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:

- Selecting
- laying out material
- patternmaking tools and equipment

1.1 Selecting and laying out materials, patternmaking tools and equipment

1.1.1 Introduction

Pre planning helps ensure an industrial workstation design that successfully integrates the operator, task, and environment.

1.1 Selecting pattern making material, tools and equipment

Pattern is a blueprint for constructing a garment. It is an outline, a template to create shape.






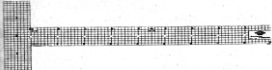


Pattern making is a **bridge** function between **design and production**.




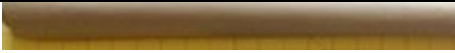


1.2 Patternmaking tools and equipment

Pattern making tools & materials are used to prepare neat and accurate pattern. To a greater level, the accuracy of the pattern depends on the quality of instruments used to prepare them.

Like in any activity, gathering the proper tools for the job will make each step along the way better, more accurate. Without the proper tools each task is hard.

Below is a guide of some of the items you will want to have on hand when getting into pattern

Name of Tool	Image	Description of Use
Set Square		To draw perpendicular lines that need to be squared out
Transparent Ruler		To measure straight line
Tape measure		To measure curved line.
Hip curves		To make curves like hip, It used to make for side seams & in seam of trousers & the like.
French Curve		Make for shaping edge of curved Collars, Arm scyes, neck lines & other additional types of curves.
T- Square		Is used to locate cross grains, alter patterns and square off straight edges.
Awl		Indicate the ending of darts, pocket, and buttonhole placements
Paper scissors		To cut a paper of pattern

Metal weights		Hold patterns in place for tracing and marking.
Notcher:		Cuts opening at the pattern's edge to indicate seam allowance, center lines, and to identify front and back of patterns.
Tracing wheel		To transfer lines or symbols from one pattern to another
Pattern paper		They are available in many varieties and good quality paper with smooth surface should be selected
Pencil & Eraser		Used for patterning on pattern paper. A good eraser used to cleanly remove unwanted lines leaving no marks.
Fashion triangle/ Hip curve		,

Self-check1

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

Read the following questions carefully& answers on the separate sheets

1 list at list five pattern making tools & equipment's and what are their uses?(4)

2 what are the use of awl?(2)

Unit Two: Take body measurement

This unit to provide you the necessary information regarding the following content coverage and topics:

- 2.1 Read drawings or sketches of client or supervisor.
- 2.2 conform work place procedures and instructions.
- 2.3 Finish tools and equipment and preparing fit model for measurement.
- 2.4 Establish and mark body reference points.
- 2.5 Take and record body measurement of fit model.
- 2.6 Measure all body placements

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:

- Identifying and reading drawings or sketches of client or supervisor.
- Clarifying and conforming work place procedures and instructions.
- Finding tools and equipment and preparing fit model for measurement.
- Establishing and marking body reference points.
- Taking and recording body measurement of fit model.
- Measure all body placements

2.1 Identifying drawing or sketch provided by client

2.1.1 Introduction

Drawings or sketches are drawing often freehand, that are used by designers as a quick and simple way of exploring initial ideas for designs.

Sketches that are created by designers while developing an idea of a product. Mainly roughly made and without details. Clarifying sketches – Created to explain function, shape and structure of a design concept.

A flat sketch is usually used to outline the shape and silhouette of a garment. It is important in flats that all **construction** lines such as **seams**, **darts**, and **styling details**, such as **pockets**, **buttons**, and **trims (decoration)**, are represented. Garment companies use flats as their primary

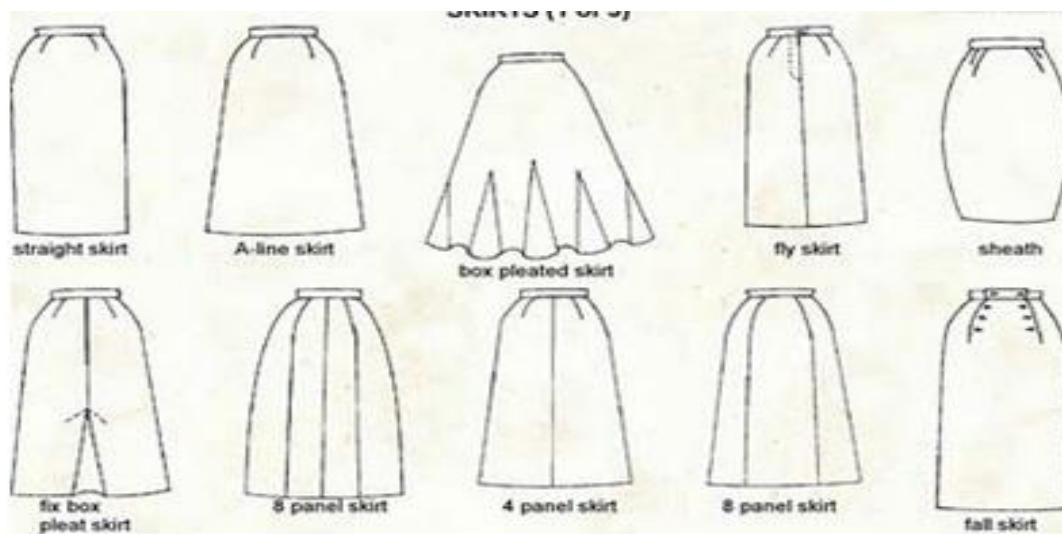
visual source to communicate with buyers, clients, pattern makers, and sample machinists. Flats are the international fashion language.

A Detailed Drawing is the complete end-product definition of the component or system on the drawing that shows a detailed description of a product. Sketching is an excellent way to quickly explore concepts

Showing sketched compositions to clients, will potentially save an enormous amount of time.

The more detailed the project will be the earlier you want client approval.

Types of skirt style



Style of shirt/ blouse

Shirt and blouse have some different but both are wearing and above waist or cover upper body. The main difference between a blouse and a shirt is that a blouse has more fullness at the waist, while a shirt can have any style so long as it covers the upper body. The term blouse refers to a top without full button closures, while a shirt can have any type of closure. “Blouse” also usually refers to women’s clothing, while “shirt” remains engendered

Basic shirt / blouse flat sketch template



|

Vents

polo shirt

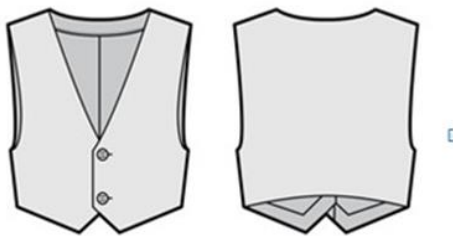


Figure garment styles

2.2.2 Workplace procedures and instructions

Page 12 of 87	Ministry of Labor and Skills Author/Copyright	Measurement and Quantity estimation In irrigation project	Version -1
			April, 2022

Workplace procedures explain specific action plans for employees when carrying out a policy. Workplace procedures are important because they tell your employees how to deal with a situation and when. Safe Work Procedures are documented procedures for performing tasks.

The purpose of a safe work procedure is to reduce the risk to health and safety in the workplace and reduce the likelihood of an injury by ensuring that employees know how to work safely when carrying out the tasks involved in their jobs. Safe work procedures may also be called safe work method statements (SWMS).

Work Instruction?

A Work Instruction is a description of how to perform a process in steps; For a step in a process, the instruction(s) on how to perform that step, sufficiently detailed to allow an inexperienced person (novice) to perform the work. Work instructions are more detailed than standard operating procedures.

Assembly instructions are common in manufacturing or when you have furniture delivered to and you have to put it together. The little piece of paper that you receive with your product explains how to assemble the furniture. These assembly instructions are a form of work instruction.

The document pyramid lists the hierarchy of the four types of documents.

Policies. Organizing principles that can represent rules to guide employees (employee policies) or mission statements used to guide a process or procedure.

Procedures. A series of steps that achieve a planned result.

Work Instructions. Detailed step-by-step guide.

Records. Evidence (data) of an event that has occurred

A Work Instruction is Also Known As

Standard Work when used in a Lean system.

Job Aids, which are typically more picture than words.

Work Guides.

- Checklists.
- Recipe when used in cooking.
- User Manuals that may explain how to use a product.
- Assembly Instruction

Work Instruction Benefits

Work instructions communicate exactly what needs to be done in a step-by-step manner. If you follow the work instruction as written, then you will reduce risks, minimize errors, and save time.

Reduce Risk by detailing the safest way to execute a something.

- Minimize Errors by following a tested method of how it was done before.
- Save Time by reducing risks and minimizing errors you will do it right the first time.

2.3 tools and equipment and preparing fit model for measurement

Before we begin, you will need

- **Model or Dress Form** - Grab your fit model or your dress form to measure.
 - Interested in investing in a dress form? I have a whole list of suppliers in the Fashion Resource Directory under “Supplies” (it’s free and doesn’t require your email to download). Plus, most dress form suppliers include a list of measurements for you!
 - While it is entirely possible to measure yourself for a pattern, it’s much more accurate to have someone else measure you. So if you want your own personal measurements, I suggest finding a friend to go through this tutorial with and you can exchange your measurements at the end!
- **Tape Measure** - A soft, flexible ruler that is typically 60” in length allows for you to take accurate, contoured body measurements. Get it here!
- **Full Length Mirror** - Having a full length mirror nearby will help you to make sure your model is standing straight and that your tape measure is level. Get it here!
- **Measurement Sheet** - A sheet where you can record the measurements you will be taking. You can pick up this pre-made Model Measurement Sheet in the shop!

HOW TO MEASURE A BODY OR FORM

TIPS FOR ACCURATE MEASUREMENTS

- Your Model should be dressed in skin tight clothing - like leggings and a cami, for example - for the most accurate measurements.
- Note the type of bra the model is wearing and if it has any padding or wires.
- Take measurements with the model barefoot (or note the platform/heel height). If you are developing garments meant to be worn with elevated shoes - like a gown, for example - note the heel height.

- Your Model should be standing straight, but be relaxed. You can ask them to take a few breaths to help relax their posture. One of my favorite tips is to place the tip of your finger behind the measuring tape to give yourself just a little bit of extra room. This ensures you're not holding the measuring tape too tight and helps to create more accurate measurements when a person is tense during the measuring process.
- Keep your measuring tape level.
- Be aware of measurements taken straight or with the contour of the body.
- Measuring with a partner is easiest, because they can note the measurements on your model measurement chart while you continue to measure.
- Note the typical size that your model wears (bras, tops, bottoms, dresses, etc.) to better understand sizing and fit trends.
- Take a picture of the model - front, back, and side - to keep with your measurement chart.

Preparing the Model for Measuring

Measuring form and model

- ❖ Forms are sometimes imperfect, with measurements not always equal on each side of the center. Check and remark the side seams if necessary. The shoulder line may be misplaced, causing a sleeve to hang out of alignment. (This problem is corrected at the time of the fitting.)
- ❖ Drafting depends on measurements taken from form or model. Measurement must be taken carefully to avoid fitting problems.

Record measurements on the Form or Model Measurement Chart found in the back of the text.

The chart can be removed for duplication. Personal measurements. Reference to personal fit (*Shown in italics*) will accompany some of the instructions

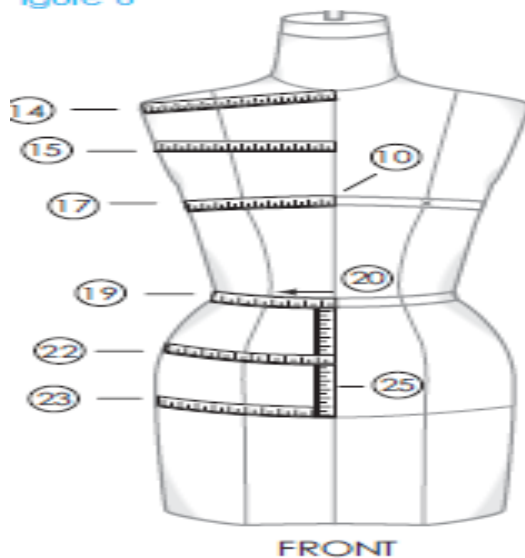
HORIZONTAL ARC FOR FORM AND MODEL MEASUREMENTS

Front

- Across shoulder (14). Shoulder tip to center front Neck.
- Across chest (15). Center front to 1 inch above Mid-armhole (pinhead mark).
- Bust arc (17). Center front, over bust point, ending 2 inches below arm plate at side seam.

- Bust span (10). Place tape across bust points; divide In half for measurement.
- Waist arc (19). Center front waist to side waist Seam.
- **Dart placement** (20). Center front to side front (Princess Line).
- **Abdomen arc** (22). Center front to side seam, starting 3 inches down from waist.
- **Hip arc** (23). Center front to side seam on HBL line.
- **Hip depth** (25). Center front to HBL line.

Figure 6



Back

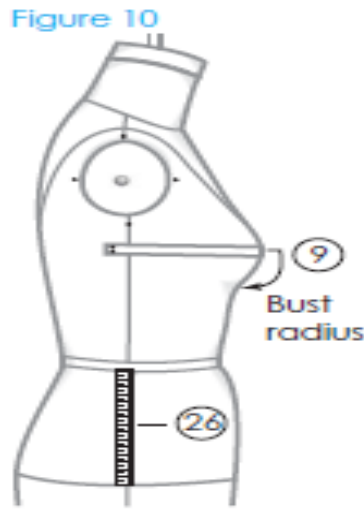
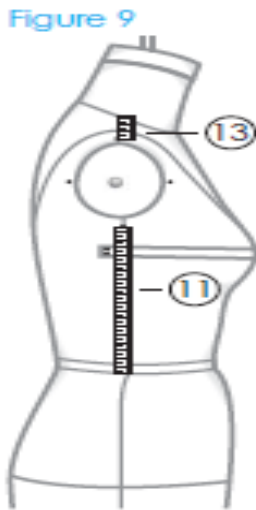
- ✓ Back neck (12). Center back neck to shoulder at neck.
- ✓ Across shoulder (14). Shoulder tip to center back neck.
- ✓ Across back (16). Center back to 1 inch above themed-armhole at ridge of pinhead.
- ✓ Back arc (18). Center back to bottom of arm plate.
- ✓ Waist arc (19). Center back waist to side waist seam.
- ✓ Dart placement (20). Center back waist to side back (princess line).
- ✓ Abdomen arc (22). Center back to side seam, starting 3 inches down from waist.
- ✓ Hip arc (23). Center back to side seam on HBL line.
- ✓ Hip depth (25). Center back waist to HBL line.



➤ **VERTICAL MEASUREMENTS FOR FORM AND MODEL**

- Side length (11). Pin mark below arm plate at side seam to side waist.
- Shoulder length (13). Shoulder tip to neck.
- Side hip depth (26). Side waist to HBL, on side of form being measured. Bust radius (9).

Measure from bust point ending under bust mound to rib above.



Front and Back—Form and Model Figures 11, 12, 13, 14

- Center length (5). Mark neck to waist (over bridge).
- Full length (6). Waist to shoulder at neck, parallel with center lines.
- Shoulder slope (7). Center line at waist to the shoulder tip (mark).
- Bust depth (9). Shoulder tip to bust point.



Figure 11

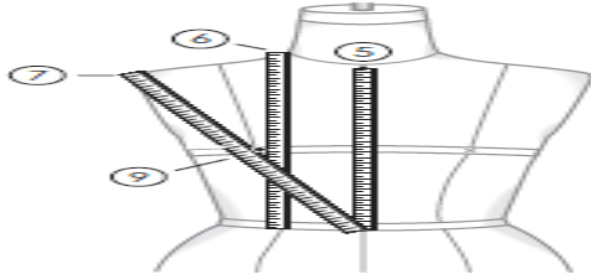


Figure 12

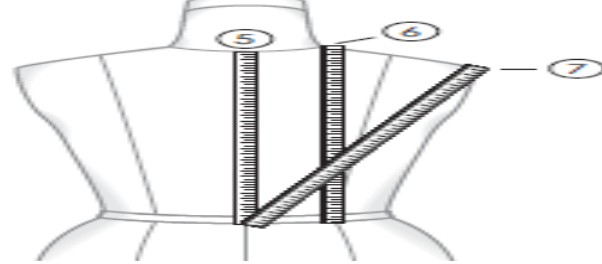


Figure 13

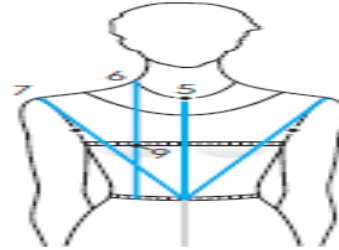
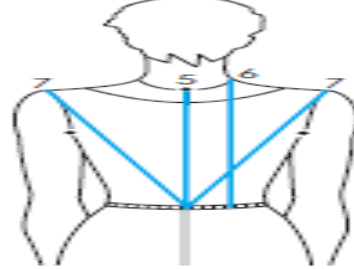


Figure 14



2.4 Establish body reference points

2.4.1 Body reference point

Body reference points and lines .Body reference points of the body used to for accurate measurements.

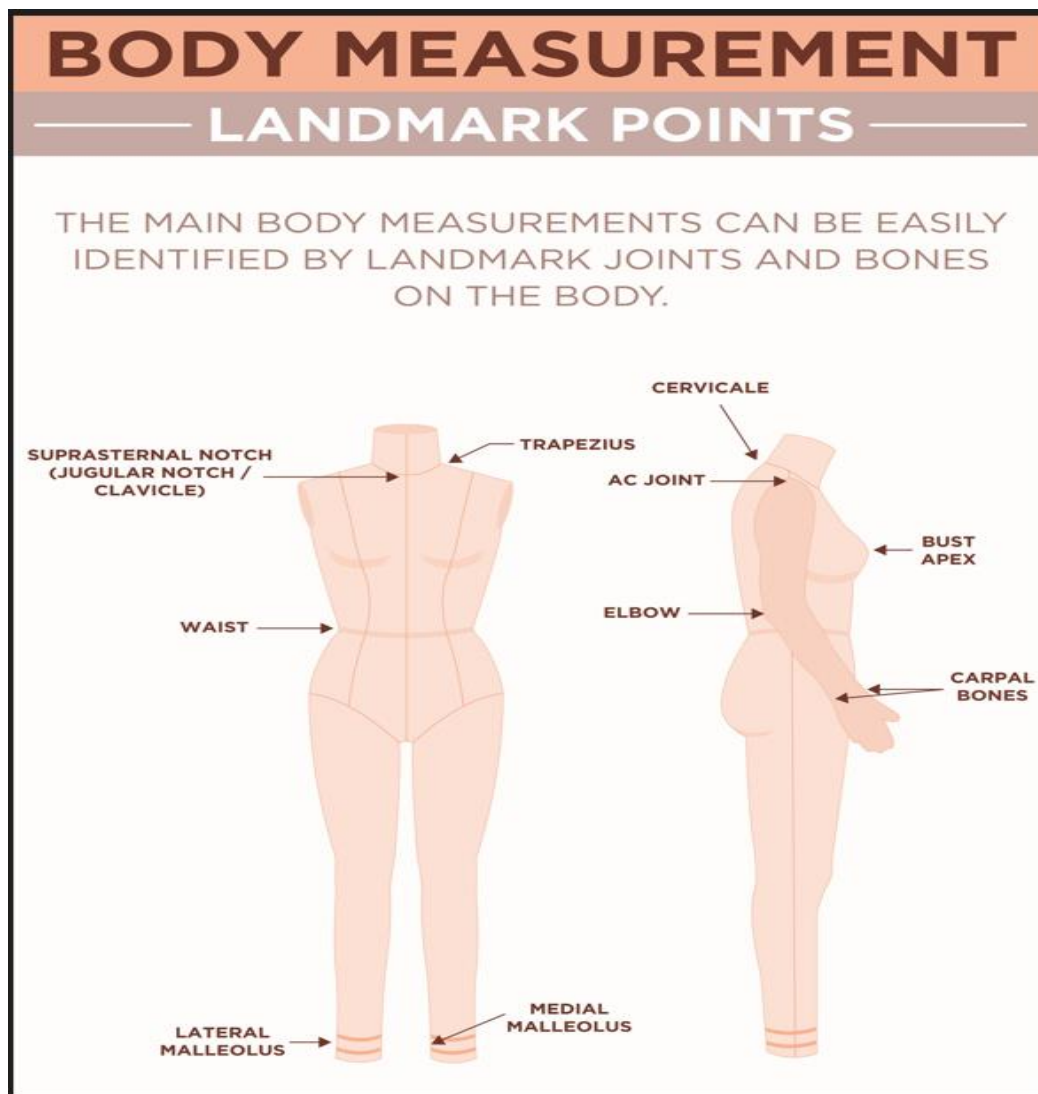


Figure 1 land mark point

Body reference point and lines indicate the starting point of measurement when measuring the part of the body



Figure 2 body reference poin

2.5 Take body measurements of fit model

Body measurements are a prerequisite to pattern construction. The size and fit of a garment depends upon the accuracy.

Before the pattern is made body measurements should be taken to determine the correct pattern size. After the pattern has been made the pattern pieces should be measured and compared with the corresponding body measurement with ease to estimate approximate quantities and material needed on job requirements.

Body measurement is the systematic collection of measurement of the human body and garment construction need that measurement of an individual or a dress form's different parts to construct a garment of proper fit.

For a properly fitted garment, it is the initial body measurement that plays a vital role. Thus, it is critical for someone be it a student, a dressmaker, designer to have a thorough knowledge of the correct procedure for taking body measurements.

➤ **Following are some points describing the importance of a proper measurement:**

Before measurement, one should find out the client's requirement regarding the fit, style, shape, pocket, collars, etc. before taking the measurement.

Rules in taking body measurement

While taking the measurement the client should be advised to stand erect in the natural pose and if possible,

Measurements should be taken with a proper tape without keeping it too tight or too loose against the body.

Measurement should be taken in proper order and in a certain sequence and should be recorded simultaneously.

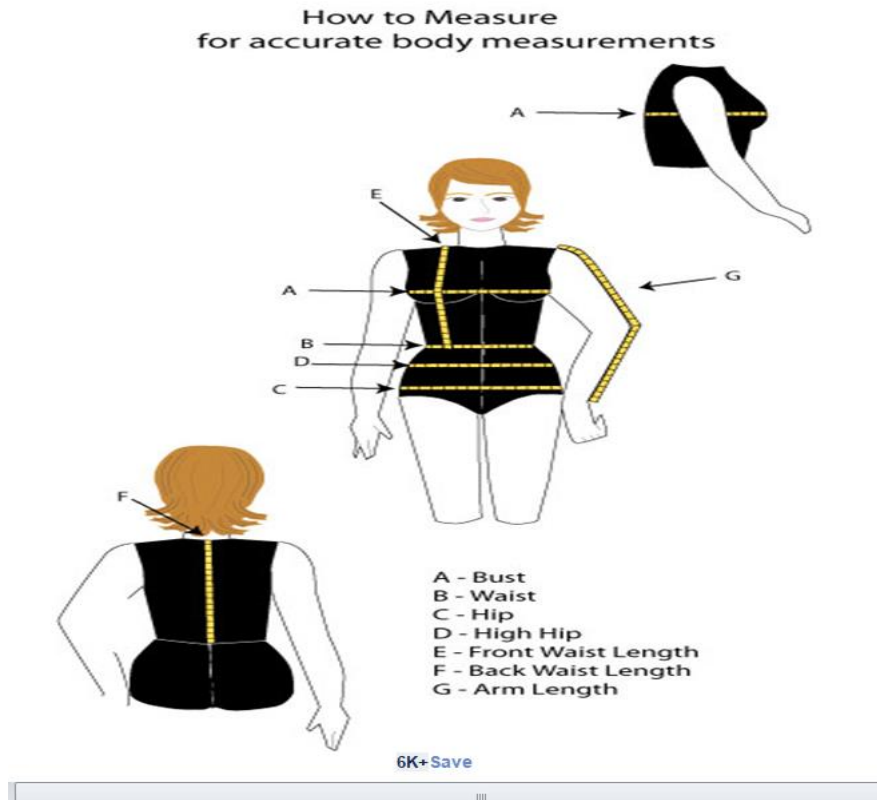
All girth measurements should be taken with the right ease as an allowance for movements or change in figure.

Measurement should be taken over well-fitted undergarments or over outer garments only if it is fairly fitted.

While taking length measurement tape should be kept absolutely flat, smooth and straight i.e. parallel to the spine or center front.

While taking width measurements to be sure that tape does not sag and tape should be parallel to the floor

Bodice measurement: the various bodice measurements are as follows



A - Bust - Measure the bust at the fullest part. Measure all around the body (total circumference).

B - Waist - Measure the waist where the body bends. It helps to bend side to side to identify exactly where to measure. You can put an elastic band around the waist to mark the correct placement.

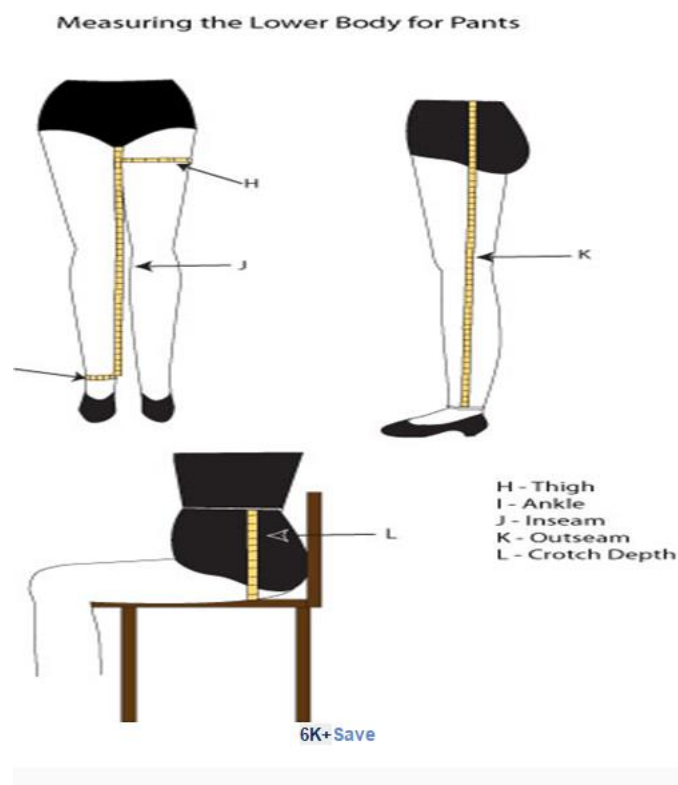
C - Hip - Measure the hips at the fullest part, usually around the seat.

D - High Hip - Measure around the fullest part, about 3 - 4" below the waist. This is helpful when fitting a slim skirt or pants (to get an accurate idea of the shape of the hip, or the belly).

E - Front Waist Length - Start at the shoulder (right next to the base of the neck), and measure to the waist, placing the tape over the fullest part of the bust.

F - Back Waist Length - Measure from the base of the neck (in the center, not the side), to the center of the waistline.

G - Arm Length - Measure from the top of the arm (find the bone at the shoulder/top of the arm) to the wrist (find the bone at the side of the wrist), WITH THE ELBOW BENT. It's important to keep the elbow bent to allow for movement when you make a sleeve. It's important to keep the elbow bent to allow for movement when you make a sleeve.



For pants, you'll need to take a few extra measurements on the lower body. Refer to the sketch, above, for the measurement points.

H - Thigh - Measure the thigh just below the crotch, at about the fullest point. Measure all around the thigh, keeping the tape horizontal and level with the floor (this part is tricky, because the tape always wants to dip).

I - Ankle - Measure the ankle all around, at the narrowest point (where the ankle flexes).

J - Inseam - Measure the inseam along the inner thigh and calf, from just below the crotch to the ankle. This is impossible to do on yourself! If you do not have a helper, you can dangle the tape measure with the "1" at the floor, and measure up to the crotch point. Later, with your foot flat on the floor, measure the distance from the ankle to the floor and subtract that measurement from the inseam.

K - Out seam - Measure along the outer thigh and calf, from the waist to the ankle. Again, this is impossible to do yourself. As above, dangle the tape, with the "1" at the floor, and measure up to your waist. Stand up straight! You don't have to look at the number on the tape until you remove it from your body. If you look down while taking the inseam or out seam measurement, you'll have an inaccurate number! And again, deduct the distance from the ankle to the floor.

For a skirt length, measure the out seam from the waist to the knee.

L - Crotch Depth - Sit on a firm chair and measure from the waist to the top of the chair seat. It may be easier to use a ruler for this measurement.

2.6 Measure all body placements

1. Bust Round: Measure around the fullest part of the bust. tape should be placed just below the shoulder blades at the back.
2. Round Hip: Measure around fullest part of hip that is around the seat.
3. Round Neck: Measure from front neck to the back neck around the largest part of the neck.
4. Shoulder Width (Back width): In the back side shoulder, Measure from left to right pit of the armhole.
5. Waist Round: Measure around the natural waist.
6. Shoulder Width: Measure from base of the neck to armhole in the shoulder.
7. Back Length: Measure from the neck base to the center of waist.
8. Shoulder to Bust Length: Measure from the highest part of the shoulder to bust point.

9. Distance between the Busts: Measure a horizontal distance between the bust points.
10. Front Neck Depth: Measure from the neck to the depth as per customer preference.
11. Back Hip Length: Measure from base of neck to the hip.
12. Armhole Circumference: Measure around the underarm and armpit.
13. Upper Arm Circumference: Measure from around the fullest part of the biceps.
14. Sleeve Length: Measure from tip of the shoulder to any point as per the customers prefers.
15. Elbow Round: Measure around the elbow.
16. Wrist Round: Measure around the wrist.

Skirt Measurements

17. Hip Measurements / Circumference: Measure around the widest part of hip (7"/18cm below waist) without stretching or loosening the tape.
18. Seat Round: Measure seat round just below the hip circumference.
19. From Waist to Seat: Measure along the side from the waist to seat in a sitting position.
20. Skirt Length: Measure from waist as per the style of the garment. For e.g.: knee length skirt = measure from waist to knee length; Full length skirt = Measure from hip to toe length

Self-check-2

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page Name ----- Date-----

I. Multiple choice Select the best answer for each question. Do this by circling the identifying letter next to your answer.

1. . -----Measure from the neck to the depth as per customer preference. (2)

- | | |
|--------------------|---------------------|
| a. Hip measurement | C. Front Neck Depth |
| b. Seat Round | D. shoulder length |

2 Is not Skirt Measurements

- | | |
|--------------------------|-----------|
| A. Armhole Circumference | C. Waist |
| B. hip Measurements | D. Length |

II Matching

Instruction: select the correct answer for the give choice. You have given 1 Minute for each question. Each question carries 2 Point.

A

B

-----1. Procedures.

A. Organizing principles that can represent rules to guide employees).

-----2. Policy

B. series of steps that achieve a planned result

-----3. purpose of a safe work procedure

C. Specific action plans for employees when carrying out a policy.

-----4. Workplace procedures

D. reduce the risk to health and safety in the workplace

Test

III:

short Answer writing

1, list down main basic body measurements?

2. list lower body measurements?

operation sheet 1

OPERATION TITLE:- Take body measurement
PURPOSE: To be assemble garment component accurately
CONDITIONS : Trainees should know material of taking body measurement.

EQUIPMENT,TOOLS Tap measure record paper, pencil form Monique,
AND MATERIALS:

PROCEDURES:

1. Preparing body measurement tools
2. Taking Measurement
3. record measurement

Lap test 1.1

JOB TITLE– Take body measurement

OBJECTIVES: -At the end of this session trainees will be able to know body measurement system .

LABORATORY WORK: Materials Required:

Task 1. Identify body measurement tool

Task. 2 Taking measurement

Task 3 Recording measurements

Task 4 apply pattern making

Unit three; Assess physical characteristics

This unit to provide you the necessary information regarding the following content coverage and topics:

3.1 Compare body characteristics with standard body.

3.2 Recording body characteristics and demographics information of fit model.

3.3 Types of demographics in relation to human body

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:

- Identifying and comparing body characteristics with standard body.
- Recording body characteristics and demographics information of fit model
- Types of demographics in relation to human body

3.1 comparing body characteristics with standard body

The measure table follows the standard of measures of the state where the garment is packaged; an Asian woman will not have the same body shape as an European lady, and consequently the measures will change. Even in the same continent there are a difference between the measures tables, for example a German woman does not have the same body as an Italian lady, as an Arab from the Chinese, etc. ...so it clear to professionals that they can't have only one reference table, but one per each country.

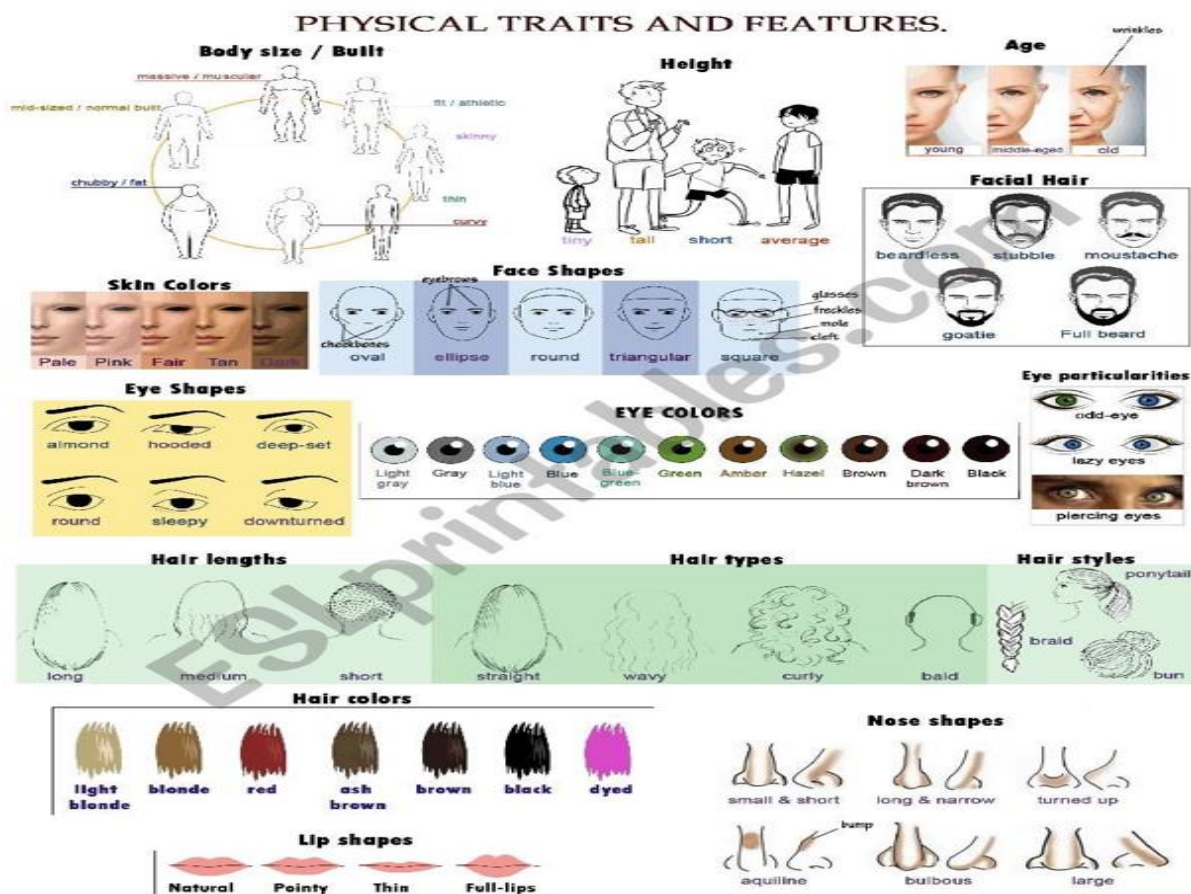
What are the physical aspects of a person?

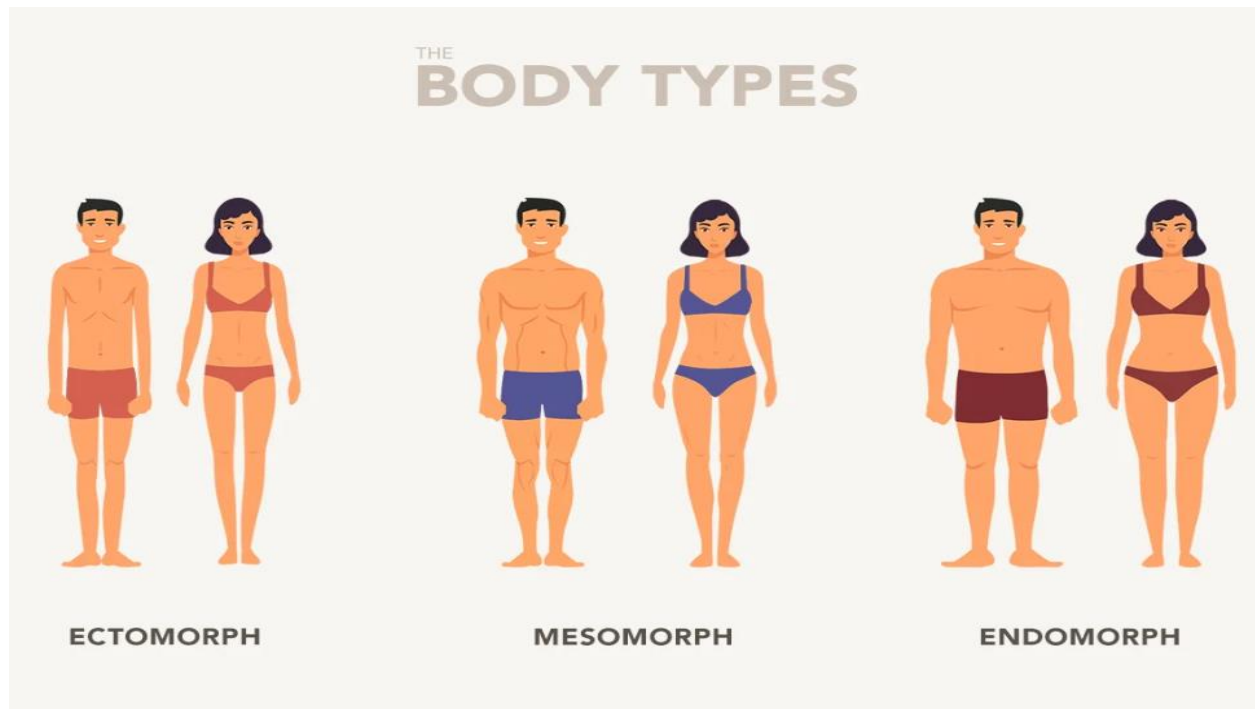
Physical characteristics

- ✓ Activity and participation life area.
- ✓ Age.
- ✓ Age at onset of disability.
- ✓ Age range.
- ✓ Birth weight.



- ✓ Birth weight.
- ✓ Birth weight.
- ✓ Blood pressure.





- Ectomorph: People with this body type tend to be lean and may even have trouble gaining weight due to a faster metabolism.
- Endomorph: This body type tends to have higher body fat, big bones, and a slower metabolism, making it hard to lose weight.
- Mesomorph: With this type, a person is more muscular and may have an easier time losing fat and gaining muscle

3.2 Understanding Demographics

Demographic analysis is the collection and study of data regarding the general characteristics of specific populations. It is frequently used as a business marketing tool to determine the best way to reach customers and assess their behavior. Segmenting a population by using demographics allows companies to determine the size of a potential market.

The use of demographics helps determine whether its products and services are being targeted to that company's most influential consumers. For example, market segments may identify a particular age group, such as baby boomers (born 1946–1964) or millennial (born 1981–1996), with specific buying patterns and characteristics.

The advent of the internet, social media, predictive algorithms, and big data has dramatic implications for collecting and using demographic information. Modern consumers give out a flood of data, sometimes unwittingly, collected and tracked through their online and offline lives by myriad apps, social media platforms, third-party data collectors, retailers, and financial transaction processors.

Combined with the growing field of artificial intelligence, this mountain of collected data can be used to predict and target consumer choices and buying preferences with uncanny accuracy based on their demographic characteristics and past behavior.

3.3 Types of Demographic Information

For corporate marketing goals, demographic data is collected to build a customer base profile. The common variables gathered in demographic research include age, sex, income level, race, employment, location, homeownership, and level of education. Demographical information makes certain generalizations about groups to identify customers.

Additional demographic factors include gathering data on preferences, hobbies, lifestyle, and more. Governmental agencies collect data when conducting a national census and may use that demographic data to forecast economic patterns and population growth to better manage resources.

You can gather demographic information on a large group and then break it down into smaller subsets for deeper dive into your research.

Why Do Demographics Matter?

Demographics

Refer to the description or distribution of characteristics of some target audience, customer base, or population. Governments use socioeconomic information to understand the age, racial makeup, and income distribution (among several other variables) in neighborhoods, cities, states, and nations in order to make better public policy decisions. Companies look to demographics to craft more effective marketing and advertising campaigns and to understand patterns among different audiences.

Why Do Businesses Need Demographics?

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Demographics are key to businesses today. They help identify the individual members of an audience by selecting key characteristics, wants, and needs. This allows companies to tailor their efforts based on particular segments of their customer base.

Self – check-3

Test II: short Answer writing

Instruction: write long answer for the given question. You are provided 5 minute for each question and each point has 5Points.

1. Why Do Demographics Matter?
2. Why Do Businesses Need Demographics
3. List down physical characteristics of body?
4. List down body types?
5. Discusses about demography?

Unit four; Obtain measurement and interpreting size standards

This unit to provide you the necessary information regarding the following content coverage and topics:

- 4.1. Obtain measurement in accordance to the job instruction
- 4.2. Types of measurements that are going to be used.
- 4.3. Categorize sizes according to their measurements

Recording data and passing on to personnel responsible for further action

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:

- Obtaining measurement in accordance to the job instruction
- Identifying types of measurements that are going to be used.
- Categorizing sizes according to their measurements
- Recording data and passing on to personnel responsible for further action

4.1 taking measurement by appropriate device

A cloth measuring tape is a good option, or you could use one specifically made for taking body measurements, such as the Moy Tape Body Tape Measure. For accuracy, take your measurements at least twice. Take the average of both measurements to get your final numbers.

1) Tape measure

A flexible sewing tape measure usually measures about 60 inches long and 5/8 inches wide. It is generally reversible with inches on one side and centimeters on the other to help take a more accurate measurement. The flexible material will not stretch, and can easily be rolled up when not in use.

4.2 Types of body measurement

A, Vertical Measurement

- ✓ Shirt length - taken from the nape down the center back to the desired length.
- ✓ Sleeve length - taken from the shoulder tip point down to the desired sleeve length.

- ✓ Length of pants or shorts – measures along the side below the waist band to the desired length of the pants.
- ✓ Crotch or Rise – measured by placing a ruler under the crotch then measuring below the waistband down to the top of the level of the ruler.



Figure 1 vertical body measurement

B, Horizontal Measurements

Shoulder - taken from one shoulder point to the other.

Bust/Breast - taken around the body with the tape measure passing over the fullest part of the shoulder blade at the back and over to the apex.

Upper arm girth - taken around the fullest part of the arm in line with the armpit.

Lower arm girth or sleeve width - taken around the arm two to three inches below the armpit.

Neck measure – taken around the neckline.

Waist (w) - taken around the smallest part of the waistline. Insert two fingers under the tape measure for ease or allowance.

Hip or seat (H) - taken around the fullest part of the hip (buttocks) with two fingers inserted under the tape measure. Desired Bottom or Hem Circumference or leg hole – taken around the fullest part of the bottom.



Figure 2 horizontal measurement

C, Circumferential measurements

Neck - Loosely measure around the circumference at the base of your neck.

Bust - Lift your arms to the side. Measure around your body crossing over the fullest part of your bust. (The tape measure must run directly over your nipples and across your shoulder blades on your back).

Calf, thigh and upper arm circumferences are also used to estimate changes in musculature/lean mass and are strongly influenced by variation in appendicular skeletal muscle. Waist and hip circumferences are measures of 'abdominal girth', the circumference around the midriff of the body



Figure 3 Circumferential measurement

4.3 size category

Clothing sizes are the sizes with which garments sold off-the-shelf are labeled. Sizing systems vary based on the country and the type of garment, such as dresses, tops, skirts, and trousers.

There are three approaches:

- Body dimensions: The label states the range of body measurements for which the product was designed. (For example: bike helmet label stating "head girth: 56–60 cm".)
- Product dimensions: The label states characteristic dimensions of the product. (For example: jeans label stating inner leg length of the jeans in centimeters or inches (not inner leg measurement of the intended wearer).)
- Ad hoc sizes: The label states a size number or code with no obvious relationship to any measurement. (For example: Size 12, XL.) Children's clothes sizes are sometimes described by the age of the child, or, for infants, the weight.

Sizes were based on:-

- Horizontal torso measurements, which include the neck circumference, the shoulder width, the bust line measurements – over-bust circumference, the full bust circumference, the bust-point separation, and the under-bust (rib-cage) circumference – the natural waist circumference, the upper hip circumference and the lower hip circumference.

- Vertical torso measurements, which include the back (neck-waist) length, the shoulder-waist length (not the same as the back length, due to the slope of the shoulder), the bust-shoulder length, the bust-waist length, and the two hip-waist lengths.
- Sleeve measurements, which include the under-arm and over-arm lengths, the fore-arm length, the wrist circumference and the biceps circumference

Women's' Clothing Size Charts

General Size	US Clothing Size	Chest/Bust Measurement
S	4-6	34"-35"
M	8-10	36"-37"
L	12-14	38.5"-40"
XL	16-18	41.5"-43"

Figure 1 size chart

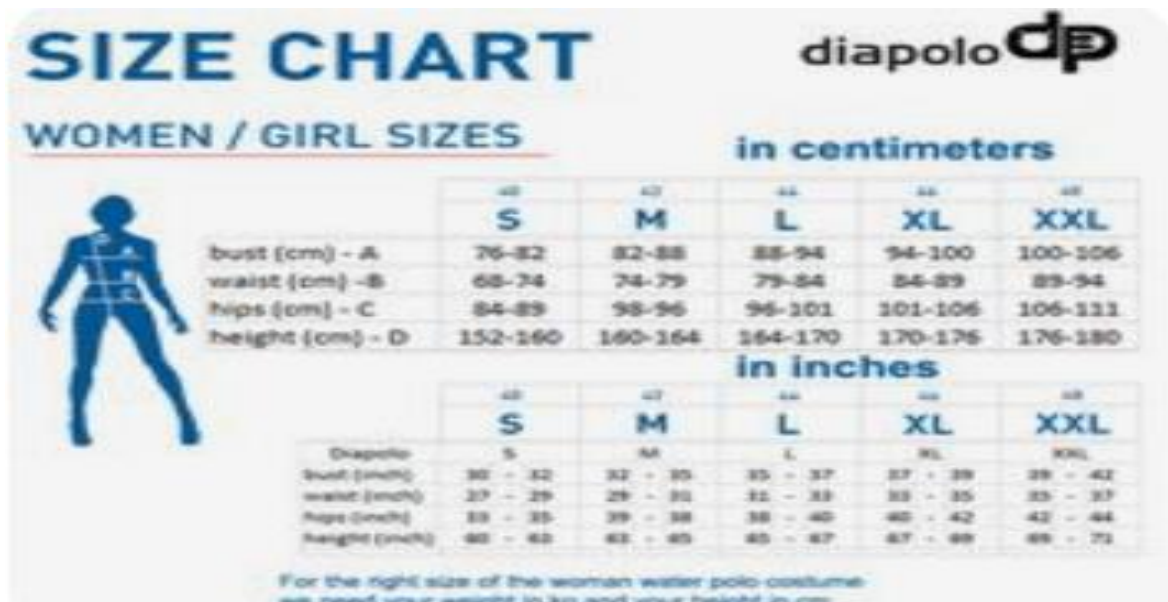


Figure 2 size chart

Self-check-4

Test-I Matching

Instruction: select the correct answer for the give choice. You have given 1 Minute for each question. Each question carries 2 Point.

A

B

- | | |
|---|--|
| -----1. Circumstance measurement | E. Measure around your body crossing over the fullest part of your bust.). |
| -----2. Vertical measurement | F. Shoulder |
| -----3. Horizontal measurement | G. length |
| -----4. Measure around your body crossing over the fullest part of your bust.). | H. bust |

Test II: short Answer writing

1. Define size chart?
2. What are size categories?

Operation sheet

OPERATION TITLE:- Obtaining measurement and interpreting size standards

PURPOSE: To understand and interpreting size of garment

CONDITIONS : Trainees should know how to take body measurement and interpreting size of garment

Equipment, tools and materials: tap measure record paper, pencil form Monique, standard size chart

Procedures:

- 1 selecting body measurement tools and equipment
- 2 Taking Measurement
- 3 record measurement
- 4 making pattern
- 5 interpreting size according to our measurement

Lap test 1.1

JOB TITLE– Obtaining measurement and interpreting size standards

OBJECTIVES: At the end of this session trainees will be able to know how to Obtaining measurement and interpreting size.

LABORATORY WORK: Materials Required:

- Task1. Identify body measurement tool
- Task. 2 Identifying types of measurements
- Task 3 Categorizing sizes
- Task 4 Recording data

Unit five. Preparing basic block pattern

This unit to provide you the necessary information regarding the following content coverage and topics:

Interpret design drawings and specifications as required.

Principles of pattern making in constructing apparel pattern.

Document methods and formulas used and preparing basic block.

Produce pattern to specified measurements

Checking accuracy of seam allowance, ease allowance, seam match, hems and functional openings.

Recording data and passing on to personnel responsible for further action

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

- Interpreting and clarifying design drawings and specifications as required.
- Applying the principles of pattern making in constructing apparel pattern.
- Documenting methods and formulas used and preparing basic block.
- Producing pattern to specified measurements
- Checking accuracy of seam allowance, ease allowance, seam match, hems and functional openings.

5.1 design drawings and specifications as required

Technical drawings are a fundamental necessity for a designer trying to relay their design blueprint.

In the fashion industry, where the product must be made accurately, you'd be hard pressed to find a pattern cutter who would work with you without them as the design sketch can sometimes lead to inaccurate proportions.

Simply put, they're a two-dimensional linear, diagrammatical rendition of your designs drawn in solid line, depicting as much detail as possible.

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They are the graphic, clearly drawn an explanation of the product, showing all the construction details, such as seams, darts, pockets, fastenings and topstitching.

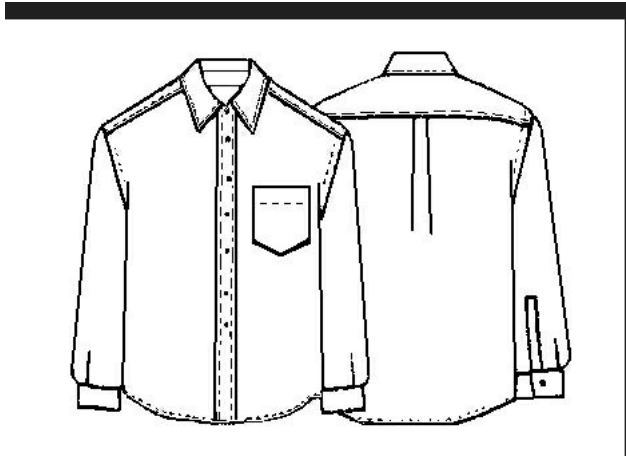


Figure 4 mens blous

5.1.1 What is a Specification Sheet in Fashion?

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. 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 specification sheet also coined as a spec sheet. The specification is part of an apparel tech pack though many uses both the term interchangeably.

5.2 Three Major Pattern making Principles

For making flat pattern and for making alterations according to different design it is very important to know the pattern making principles.

If we know the basic principles of pattern making and alteration, we can create any design without affecting the size and shape of the original pattern. Any pattern can be created and modified if we know the basic three principles, which are:

- 1 Principle of dart Manipulation: there are many rules for creating, combining and dividing the darts and transferring dart at different places on a pattern piece. Dart can be shifted to a new place by slash and spread method and by pivot method.
- 2 Principle of added Fullness: there are rules for adding fullness in a garment. Fullness can be provided in a garment with the help of gathers, pleats, tucks etc.
- 3 Principle of contouring: there are rules for making contoured patterns to make it fit the curves of the human
Absorbing the dart excess into style lines to create a contoured silhouette.

Principle of dart Manipulation



Figure 1 dart manipulation

- The dart is one of the most flexible and creative parts of the pattern. The space (excess) between the dart legs can be used in a variety of creative ways, limited only by the imagination of the designer.
- Dart excess used as design is referred to as *dart equivalent*. Dart equivalents are illustrated as tuck-darts, pleats, flares, and gathers. Dart equivalents replace the dart as control and will always be directed to the pivotal point of a pattern (such as bust point).

The difference between a dart and a dart equivalent is the manner in which each is marked (and subsequently stitched). Darts are stitched end to end, tuck-darts are partially stitched, pleats are folded, stitched across fold, and fullness is spread and gathered along the stitch line or flare when

not stitched. Gathers are illustrated separately using the slash-spread and pivotal-transfer techniques.

Advanced design using darts and dart equivalents follows. A sample of each dart equivalent should be cut in fabric. It is important to view the different effects created by varying the dart.

Darts are a powerful tool of the Patternmaker to make flat fabric into 3D shapes for the garment. Therefore, understanding how darts work is a vital part of manipulating them to fit your design.

DART MANIPULATION TECHNIQUES

When developing or editing a pattern, you will need to adjust the darts to fit your desired silhouette. This means that we need to transfer the shaping (darts) to our new desired style lines. In order to do so, you will need to follow two manipulation techniques:

Slash and Spread - The new design line is cut and spread open to create a new dart, while the original dart is closed. The working pattern is altered.

Pivot - The pivotal point (bust point or dart point) stays stationary. The pattern is traced and pivoted to close the old dart and create the new dart. The working pattern is not altered.

Slash-Spread Technique

Figure 1 Gathers at Shoulder

- Trace the front pattern. Mark mid-shoulder. Label dart legs A and B.
- Draw slash lines 1 inch out from each side of the mid-shoulder, ending at bust point (pivotal point).

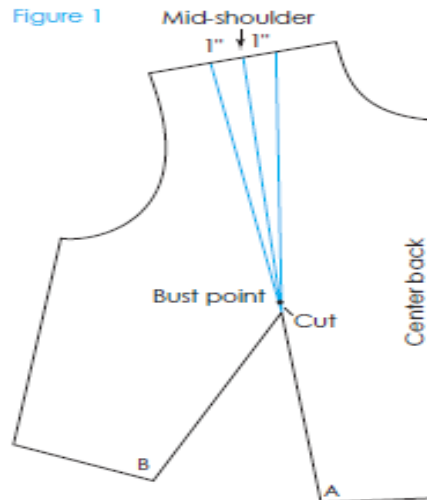


Figure 2 slash spread technique

- Cut slash lines to, not through, bust point.
- Place on pattern paper and bring dart leg Halfway to A. Secure.
- Spread slashed sections equally and secure.
- Trace the outline of the pattern.
- Place notch marks 1/2 inch in from shoulder and neck for gather control.
- Draw blending line along the shoulder, touching center sections of the slashed parts.

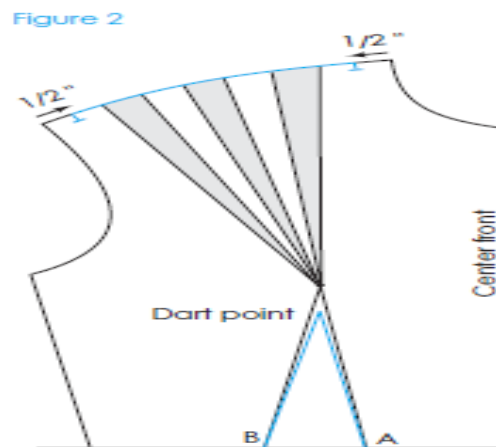


Figure 3

- Mark back shoulder notches same distance in from shoulder tip and shoulder at neck.
- Add 1/2 inch seams and 1 inch at center back.

- Cut and stitch for a test fit.

Figure 3



Figure 4

Figure 1 Pivotal-Transfer Technique

- Place the pattern on paper and a pushpin at bust point.
- Mark mid-shoulder and 1 inch out from each side of the mark. Label 1, 2, 3 and dart legs A, B.
- Divide waist dart into thirds. Label 4, 5, and 6.
- Trace from A to shoulder mark #1 and cross mark.

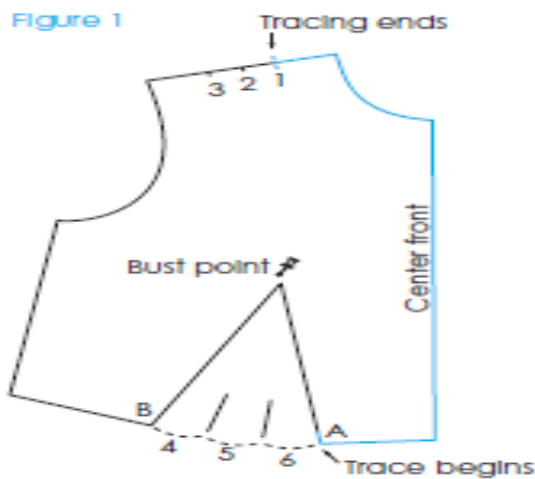


Figure 3 Pivot dart

- Pivot dart leg B, covering space 5.
- Trace pattern from shoulder mark 2 to 3 and cross mark.



Figure 3

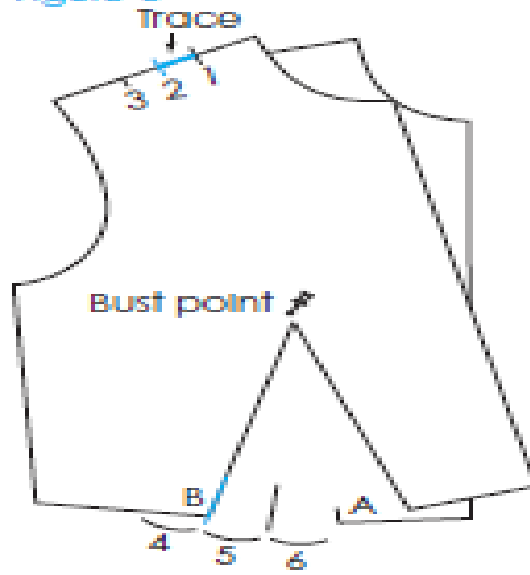


Figure 4

Principle of added Fullness



Figure 5

Fullness can be provided in a garment with the help of gathers, pleats, flare and tucks etc. to increase the fullness in a garment to the amount greater than provided by dart excess, the length and/or width in a pattern frame is increased.

To add fullness working pattern is increased in three ways:

- ✓ Equal fullness: pattern is spread equally to both opposite sides to increase amount equally on top and bottom.
- ✓ One-sided fullness: pattern is spread to the desired amount at one side only. One side remained un spread. This creates an arc shape at top and bottom.
- ✓ Unequal fullness: one side pattern is spread more than other side. This also creates an arc shape on both the sides.
- ✓ Method of adding fullness to the garment
- ✓ Pattern is traced on a paper large enough to spread slash lines. Mark grain line as in original pattern.
- ✓ Mark the pattern with series of slash lines in the direction of fullness as appear in the design.
- ✓ Slash line can be drawn horizontally, vertically or at angle as appear in the design. Beginning and end of the slash line depend upon the fullness position in the design.
- ✓ Dart excess is absorbed in added fullness.
- ✓ Cut through slash lines and spread pattern in direction of fullness.
- ✓ Trace the outer shape of the new pattern and mark grain line.
- ✓ Cut on muslin and test for fit.

Principle of contouring



Figure 6

Contouring of the pattern make it fit more closely to the curved human figure than does the **basic pattern**. For this pattern is reduced within its frame to fit the body above, below and in between the bust and shoulder blades. (Figure 12)

Contour designs are designs that follow the natural curves of the body rather than hanging loosely over the hollow areas around the bust and shoulder blades. Contoured sign includes empire style line (contouring under bust) strapless dress, bra top and cutout arm holes and neckline designs. For this excess amount is removed from the style lines, seams and darts for a closer fit. A contour pattern is used as a guide to develop other patterns.

5.3 methods and formulas used and preparing basic block

5.3.1 basic skirt pattern

The basic skirt foundation has several uses: as a base for manipulation to create design patterns, Combined with the bodice as a dress, as skirt to complete a suit, and as a separate basic skirt.

Two versions of the back skirt are given.

In Type 1, the back darts are of equal intake and length.

Type 2 has two darts of unequal intake and length.

- Record measurements from the Model Measurement Chart in the spaces provided.

Personal fit: Use the Personal Dart Intake Chart to determine the number of darts and dart intake for the skirt draft. Subtract the waist (2) from the hip measurement (4). Find the difference to the nearest whole number in column 1. For models having a sway back, mark one dart in front, with all remaining excess taken up by the back dart(s).

Skirt Front and Back

Figure 1

- A to B = Skirt length (as desired).
- A to C = Center front hip depth (25)
- A to D = Back hip arc (23), plus 1/2 inch (ease)

Squared out from A, C, and B equal to A to D.

Draw center back line F to D. Label E and F.

- E to G = Center back hip depth (25)

Cross mark location.

- A to H = Front hip arc (23), plus 1/2 inch (ease)

Squared out from A, C, and B equal to A to H.

- Draw center front line J to H. Label J and I.



Figure 1

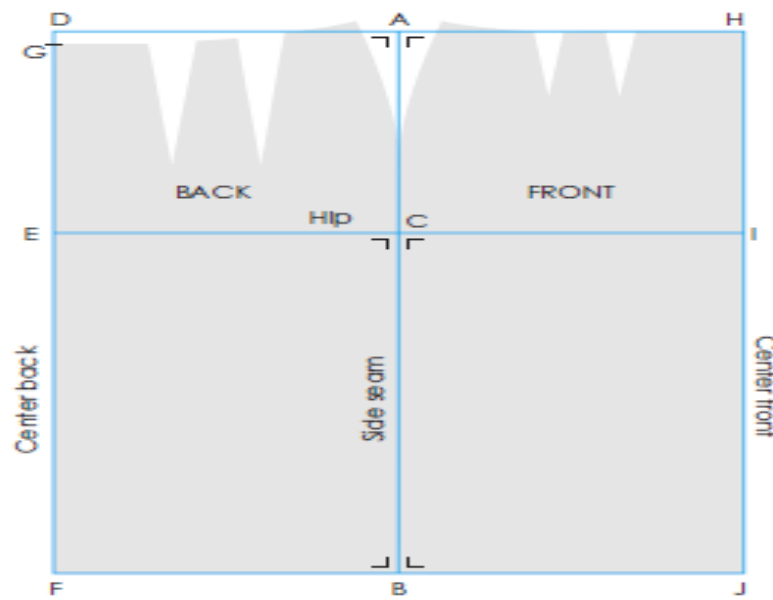


Figure 1

Back:

- D to K = Back waist arc (19), plus 1/4 inch(ease), and add 2 inches for dart intake *Personal fit; use dart intake from dart chart.*

- D to L = Dart placement (20)

Mark first dart 1 inch from L.

Mark dart space 1 1/4 inches and mark 1 inch for Second dart.

Square up and down from K

Front:

- H to M = Front waist arc (19), plus 1/4 inch(ease), and add 1 inch for dart intake *Personal fit; use dart intake from dart chart.*

- H to N = Dart placement (20) _____.

Mark first dart 5/8 inch from N.

Mark dart space 1 1/4 inches and mark 5/8 inch

for second dart.

Square up and down from M.

Figure 2

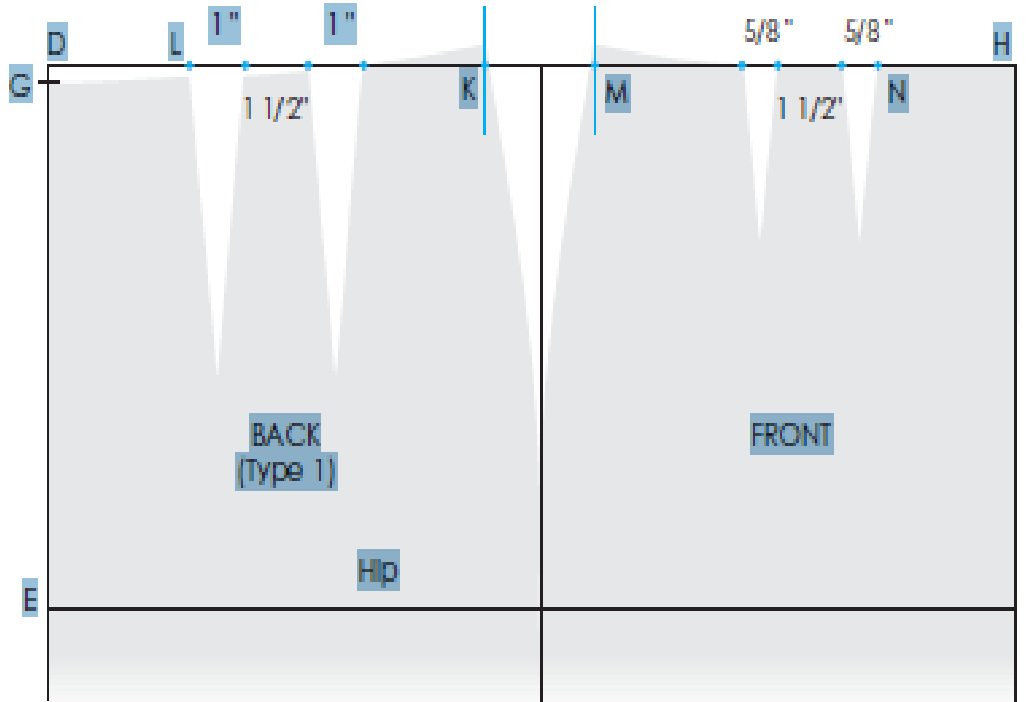


Figure 2 Front bodice draft

Record chosen measurements in the spaces provided below. For models with asymmetric shoulders and/or hips, draft on folded paper using measurements for the high side.

After the draft, the patterns cut and the low side is corrected. Tab page 45 for pattern adjustments.

Note: All pattern sizes can be purchased. Send request to topatterns4sale@yahoo.com.

The standard draft is based on a missy dress form with about a 10-inch difference between the waist and bust (B cup) for all sizes. For a personal fit, subtract the waist from bust, if more or less than 10 inches (tolerance 1/4 inch), follow the formula suggestion.

Figure 1

- A to B = Full length (6), plus 1/8_ Draw the line and label.
- A to C = across shoulder, less 1/8_ (14) Square 3_ line down from C line.
- B to D = Center front length (5) Mark and square out 4_.
- B to E = Bust arc (17), plus 1/4_

Square out from B, and then square up 11_ from E.*



Figure 1

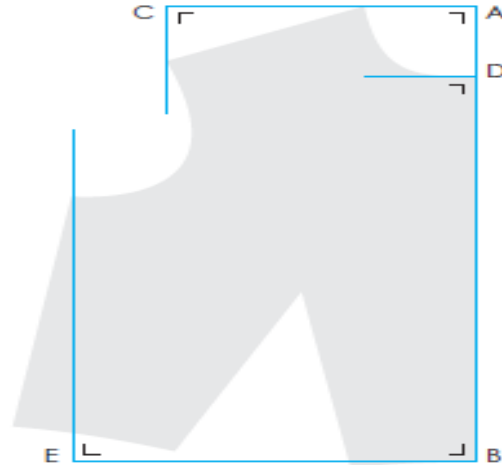


Figure 3

- B to G = Shoulder slope (7), plus $\frac{1}{8}$ _____.

G touches C line.

- G to H = Bust depth (9)._____.

Mark on the G–B line.

- G to I = Shoulder length (13) _____.

Square down from I to intersect with D line.

- J to K = Bust span, plus $\frac{1}{4}$ _ (10) _____.

Square from J at center front through H to K.

- D to L = One-half of D to J.

Mark down from D.

- L to M = across chest, plus $\frac{1}{4}$ _ (15) _____.

Square a guideline up and down from M.

- B to F = Dart placement (20) _____.

Square down $\frac{3}{16}$ _ from F.



Figure 2

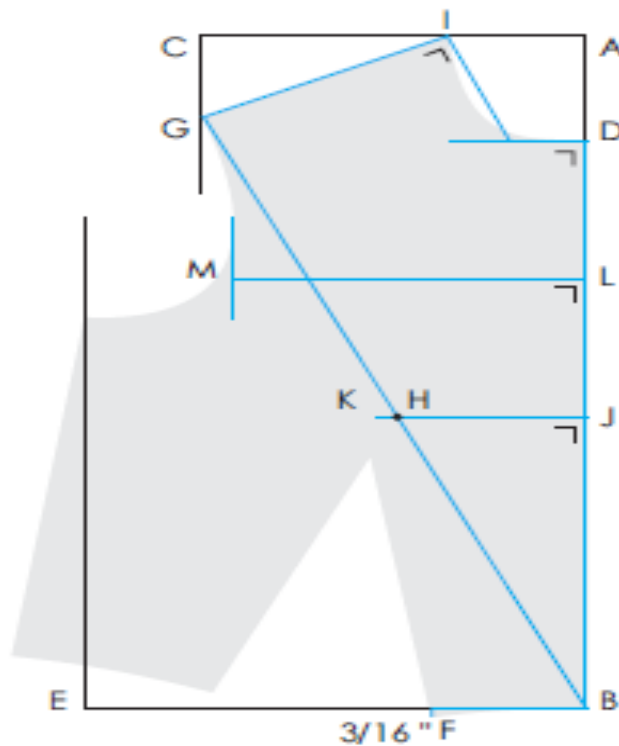


Figure 4

- I to N = New strap, plus $\frac{1}{8}$ (8) _____

Draw line from I to intersect E line.

- N to O = Side length (11) _____.
- N to P = Mark $1 \frac{1}{4}$ inch out from N.

Personal fit, see formula or adjust after
the draft is complete. Tab page 44.

- O to P = Side length line is directed to P, and ends
when equal to N to O. Draw line from P to F.



Figure 3

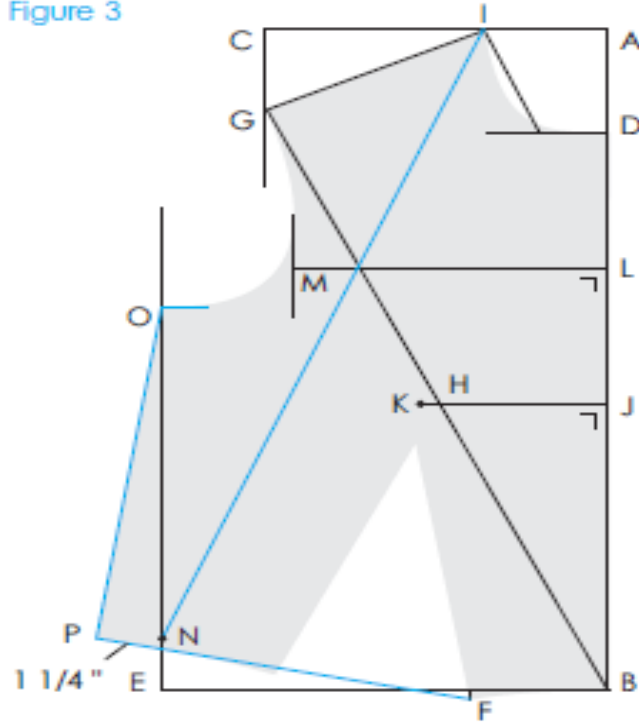


Figure 4

Completing waist measurement:

• **P to Q = Waist arc (19), plus 1/4" ease, less**

B to F_____.

Dart legs: Draw a line from K to F and measure. Draw
dart leg from K through Q equal to K to F.

Label R.

Dart point: Center a point 5/8 inch from bust point.

Redraw dart legs from this point to F and R.

Draw slight curved lines from B to F and R to P.



Figure 4

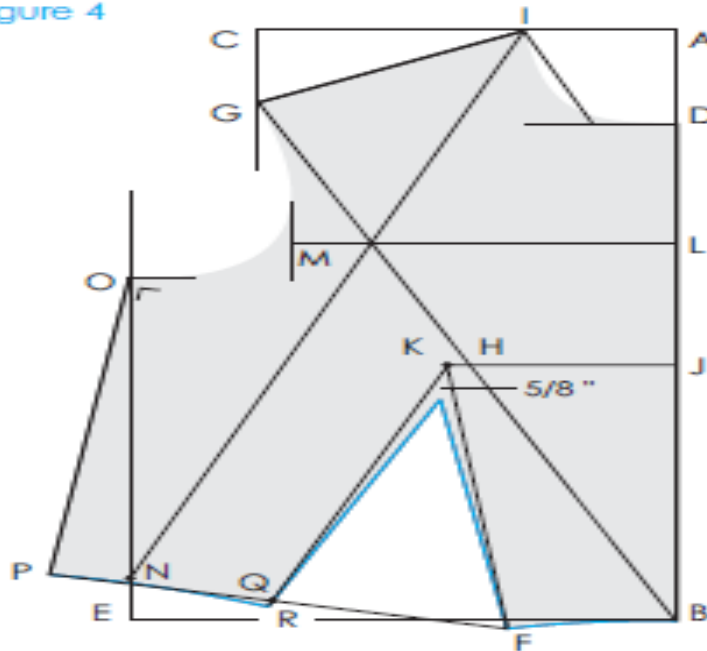
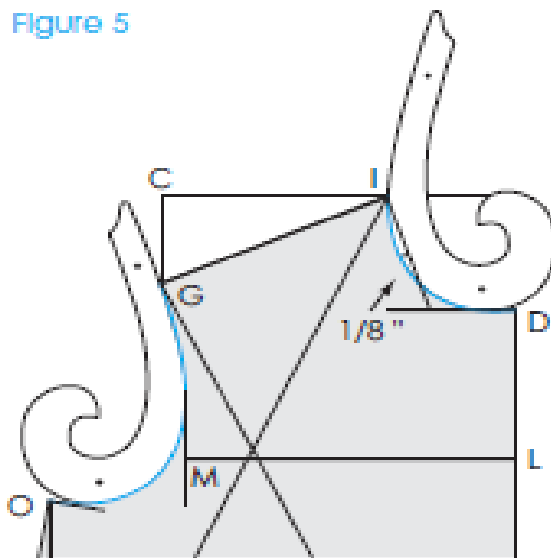


Figure 5

Armhole: Draw armhole curve with rule touching G, M, and square line. Do not follow curve past square line.

Neckline: Draw curve from I to D passing inside the angle line by 1/8\".

Figure 5



Best Cup Formula: Test Fit

C Cup: N-P _ 7/8"

D Cup: N-P _ 1-1/2"

D Cup: N-P _ 1-3/4"

For additional information, see page 44.

Continue with instruction O-P.

Back bodice draft

Figure 6

- A to B = Full length (6) _____.
- A to C = across shoulder (14) _____. Square 3 inches down from C.
- • B to D = Center back length (5) _____. Mark and square out 4 inches.
- B to E = Back arc (18), plus 3/4 inch _____. Square up from E.

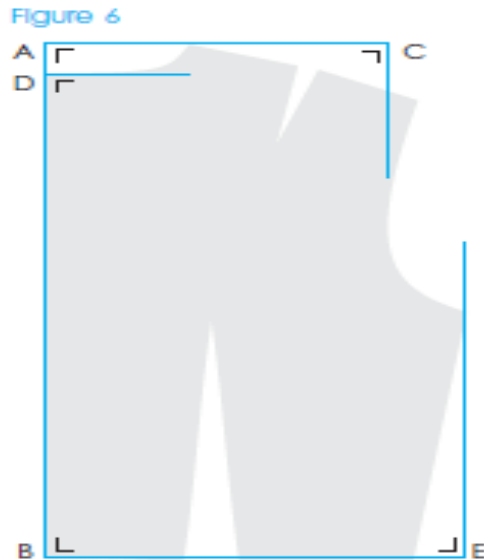


Figure6

- **A to F = Back neck (12), plus 1/8 inch**
_____.
- **B to G = Shoulder slope (7), plus 1/8 inch**
_____.
- **F to H = Shoulder length (13), plus 1/2**
Inch _____.

Line may pass G.

Square down from F to D line.

- **B to I = Dart placement (20) _____.**
- **B to J = Waist arc (19), plus dart intake of 1 1/2" and 1/4" (ease).** (Junior/petite sizes: add 1 inch dart intake, plus 1/4-inch ease.)
- **I to K = Dart intake.**

Mark center and label L.

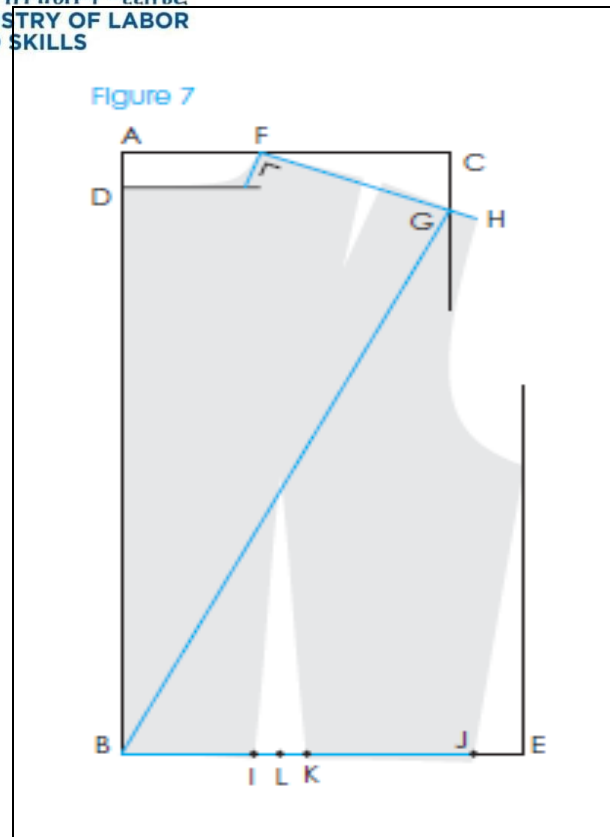


Figure7

Figure 8

- **J to M** = Square down 3/16 inch.
- **M to N** = **Side length (11)** _____.
- **L to O** = Square up from L 1 inch less than M to N.

Draw dart legs from O, 1/8 inch past I and K.

Draw slightly curved lines from K to M and from B to I.

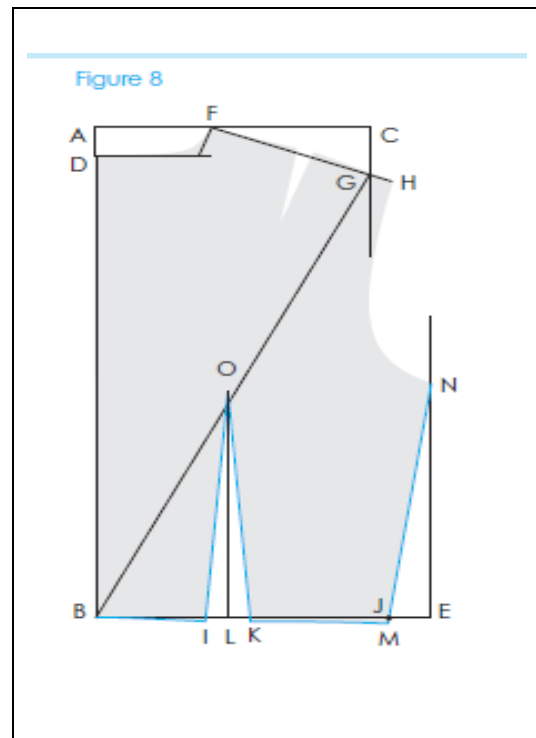


Figure8



Figure 9

- **F to P** = One-half of F to H. Mark.
- **P to Q** = Draw a 3-inch line in the direction of point O (indicated by broken line).
- **P to R** = 1/4 inch. Mark.
Draw dart leg from Q 1/8 inch past R and connect to F.
- Mark 1/4 inch from P. Draw other dart leg from Q equal to dart leg Q–R, and connect to H.
- **D to S** = One-fourth of D to B. Mark.

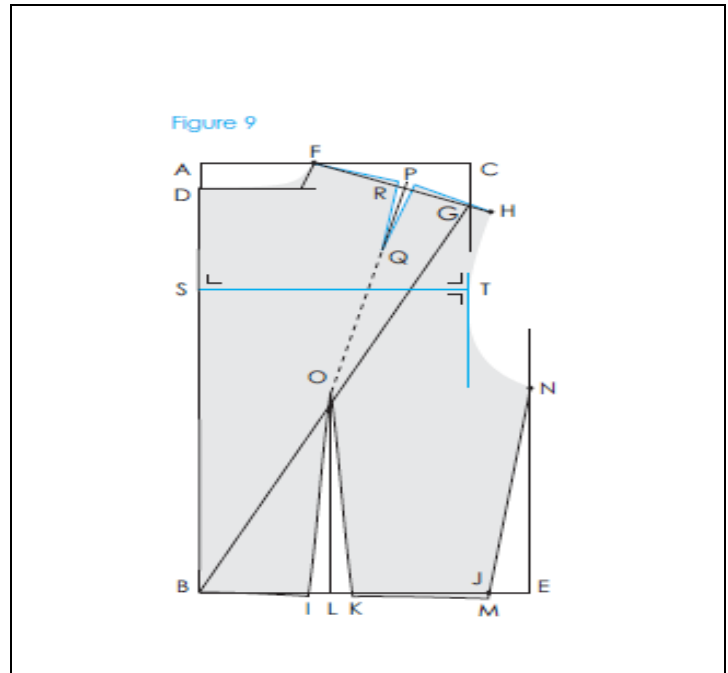


Figure 9

- **S to T** = Across back, plus 1/4 inch (16)

_____.

Square up and down from T, as shown.

Figure 10

- **Armhole**: Draw armhole with the French curve Touching H, T, and N. The curve should touch Square line.
 - **Neckline**: Draw a 3/8-inch angle line from the corner. Draw neckline from F, angle line and ending close to D.
- To test fit, add seams to muslin, see pages 44 and 45.

Increasing and Decreasing Bust

The bodice is drafted with a B cup. The pattern can be adjusted for bust cup sizes A, C, D, and DD for Personal fit. Test fit and, if necessary, adjust again; see Figures 4 and 5.

Figure 1

- Draw a line from dart point to bust point and to but not through mid-armhole.

Figure 2

C,D, DD Cup

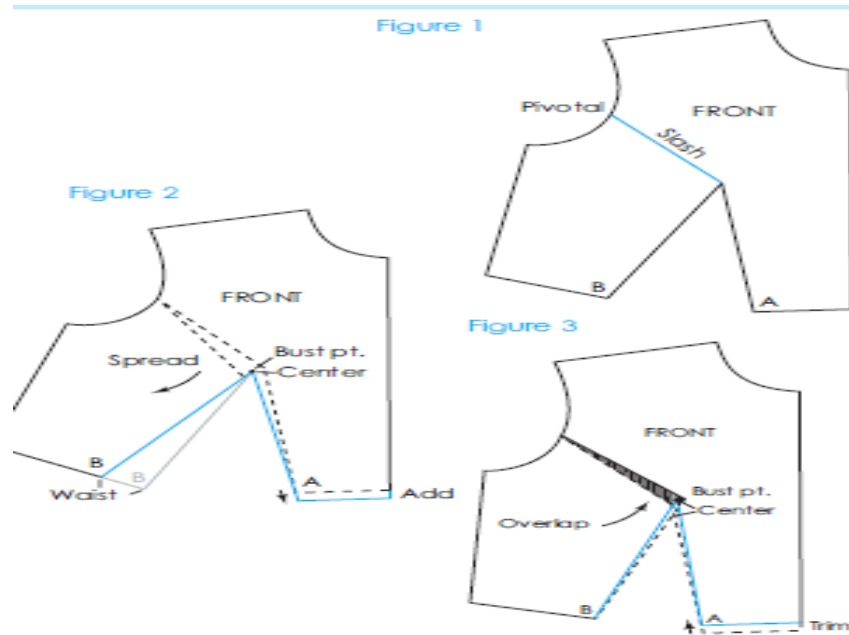
Spread at bust point as follows:

- C Cup = $\frac{3}{8}$ inch.
- D Cup = $\frac{3}{4}$ inch.
- DD Cup = 1 inch.
- Center bust point.
- Lengthen dart leg A to be equal to B.

Figure 3

A Cup

- Overlap bust point $\frac{3}{8}$ inch. Tape.
- Center bust point.
- Shorten dart leg A to true with B.



THE BASIC SLEEVE

Sleeve Terminology

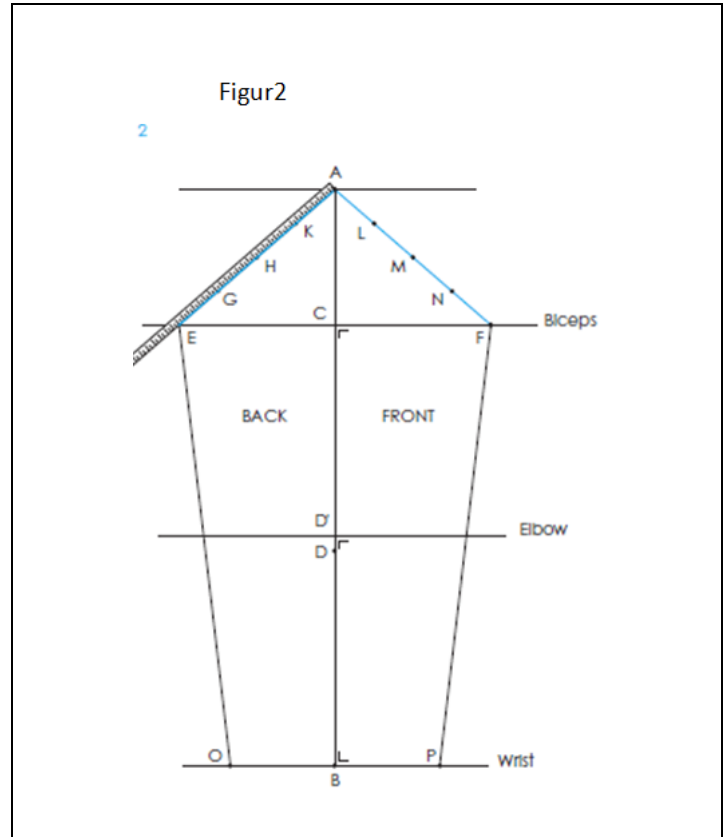
Communicating in terms that are familiar with those in design and production will help to avoid Misunderstanding when problem solving.

Grain line. Straight grain of the sleeve, which is the center of the sleeve from top of cap to wrist level.

- Biceps level. Widest part of the sleeve dividing cap from the lower sleeve.
- Sleeve cap. Curved top of the sleeve above biceps line.
- Cap height. Distance from biceps to the top at the grain line.
- Elbow level. Placed at the articulation point of the arm, and the location of the elbow dart.
- Wrist level. Entry for the hand.
- Notches. A notch at the top of the sleeve cap divides cap ease between front and back sleeve and armhole of the bodice. One notch identifies the front sleeve, and two notches identify the back sleeve. Ease begins and ends at the front and back notches.
- Cap ease. Ranging from 1 1/4 inches to 1 1/2 inches (depending on size) between front and back notches.



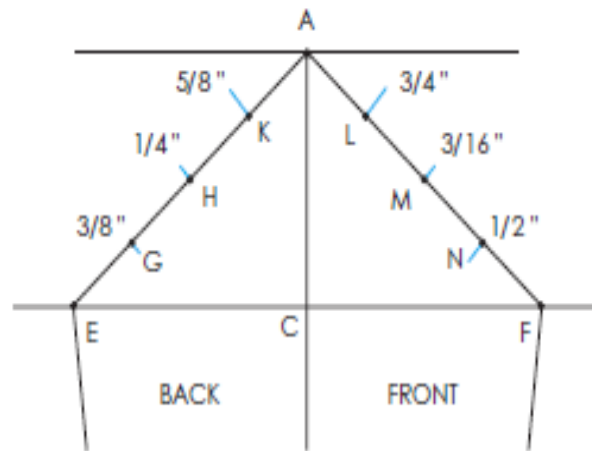
- Figure 2
- Draw a line on paper. Mark and label:
- A to B = Sleeve length _____.
- A to C = Cap height. Mark _____.
- C to D = One-half of C to B.
- D to D₁ = 3/4 inch. Mark. Square lines from
- A, C, D₁, B.
- Armhole measurement = _____.
- Place a ruler
- at A and pivot until the measurement touches
- biceps line. Mark.
- C to E = One-half of biceps measurement. Mark.
- Compare placement of the two marks, and mark
- biceps in between. Label E. Draw a line from A
- to E; divide into fourths. Mark and label, as
- shown.
- C to F = C to E
- Draw a line from A to F. Divide into fourths,
- mark and label, as shown.
- B to O = 2 inches less than C to E.
- B to P = B to O
- Draw a line from O to E and from P to F.



- Figure 3
- Square lines from the following:
- • G—in 3/8 inch
- • H—out 1/4 inch
- • L—out 3/4 inch
- • M—out 3/16 inch
- • K—out 5/8 inch • N—in 1/2 inch



Figure 3



Figures 4a,b

Front Cap line:

- Use the French curve to shape the capline by touching A, L, and M. Draw the curve past M for blending.
- Change the position of the curve rule touching F, and N, and draw curve blending with M line (Figure 4a). Draw the curve.

Back Cap line:

- Place the curve rule so that A, K, and H touch. Draw the curve past H to blend (Figure 4b).
- Change the position of the curve rule touching E and G, and draw curve blending with H line.

Figure 4a

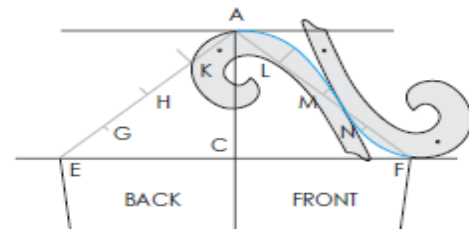


Figure 4b

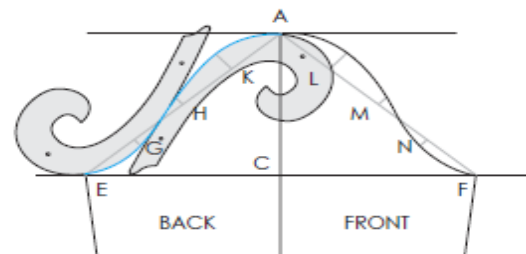




Figure 5

Completing the Sleeve:

- Label elbow Level S, and extend line R 1/4 inch.

Draw a line from R to E.

- Elbow dart:

R to T = One-half of R to D. Mark.

R to U = 1 inch. Mark.

T to U = R to T. Draw connecting line.

O to V = 3/4 inch. Mark.

Draw a line from U through V equal to S to P.

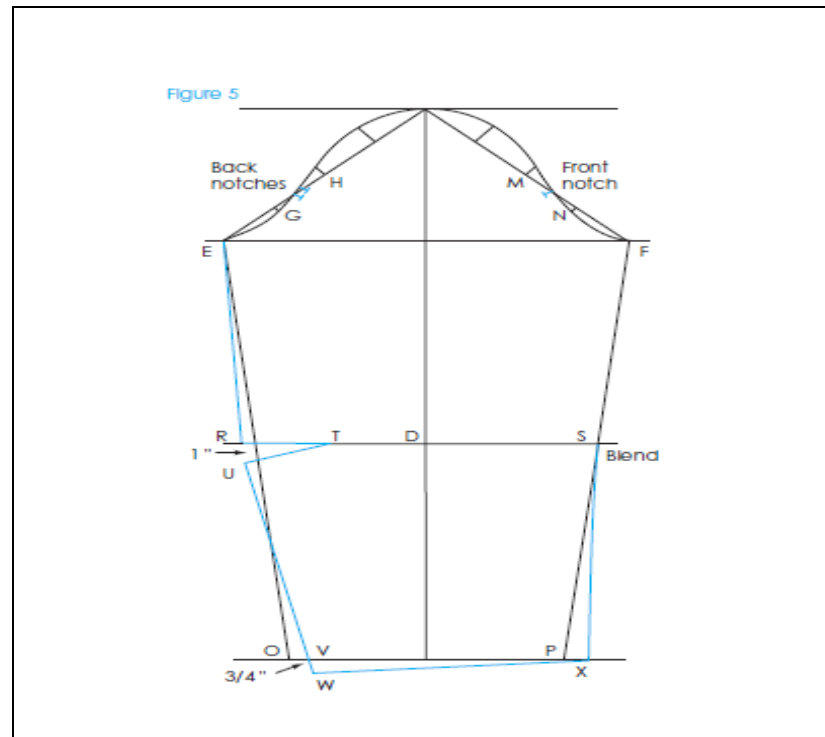
Label W.

W to X=O to P. (Adjust at the fitting if necessary.)

Draw a line ending at wrist level. Draw a slightly curved line from X to S to F.

Ease Control Notches

Back—Mark notch 1/2 inch up from G and the second notch 1/2 inch above it.



5.4 produce pattern

PATTERN is an art. It 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 (Conklin).

A pattern is flat while the body is not. The body has height, width and depth. With in 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.

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 (Shoben and Ward).

Methods of Pattern Making

Pattern making involves three methods-

Drafting

Draping

Flat paper patternmaking

Drafting:

It involves measurements derived from sizing systems or accurate measurements taken on a person, dress or body form. Measurements for chest, waist, hip and so on, and ease allowances are marked on paper and construction lines are drawn to complete the pattern. Drafting is used to create basic, foundation or design patterns.

Draping:

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 (Armstrong). 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.

Flat Pattern Making:

It involves the development of a fitted basic pattern with comfort ease to fit a person or body form. A sloper 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 (Shoben and Ward). Five basic pattern pieces are used for women's clothing. They include a snug-fitting bodice front and bodice back with darts and a basic neckline, a sleeve and a fitted skirt front and back with darts. However, as fashion changes frequently women's styles fluctuate frequently. These basic slope's are then manipulated to create fashions.

A basic sloper 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 sloper should be such that adjustments can be introduced easily. For a good pattern making, accurate measurements are of utmost importance.

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

Pattern making in Today's World

Pattern making today has become an easy job with the use of the computers. Now-a-days different software are available in the market to meet the needs of the manufacturers. The different software used are Gerber, Leuctra, Tukatech , OptiTex etc. These software has made the job of the Pattern master easier. They have made the process of pattern making more economical and less time consuming.

Pattern-making software;-enables you to input your measurements and draft out a pattern. These software draft patterns to fit your measurements specifically, eliminating much fitting trial and error in the sewing room.

A pattern can be made from a 3D form in just a few steps by using these software. An individual's measurements are collected from 3D body scanner. The measurements are used to create a virtual 3D model of the individual's body. The 3D to 2D software allows the user to define a garment surface in relation to the 3D body model. Once the garment surface is defined, the application automatically unwraps and outputs a 2D flat pattern in .dxf format.

5.5 checking accuracy of seam allowance

I know. So when's the last time you checked your 1/4" seam? Here's how I checked mine. Use Accurate Cutting Tools As you probably know, I prefer die cutting over any other cutting method. This gives me the best accuracy for cutting out my piecing units.

However, if I only need a couple of pieces, like for this test, I will rotary cut units. For this task, I prefer rulers with thin lines and lots of alignment marks. If the lines on the rulers are too thick, it can lead you to cutting units that are too large or too small, which can throw off your piecing.

Regardless of the rulers you have, it's a good idea to stick with the same brand rulers for your basic rulers. Sometimes with specialty rulers you don't have much choice, but your basic square & rectangle rulers should be the same. That way, if you're cutting is off due to the ruler marks, at least you're consistent.

Use the Right Needle and Thread My preferred needle is a 75/11 Schmitz quilting needle with 50wt 100% cotton Aurifil thread. If you prefer a topstitch needle, I believe those only come in size 80/12 for this weight thread. Regardless, you're trying to find a consistent combination that helps you achieve accuracy in your piecing. Whichever combination you choose, keep it consistent throughout your piecing.

Use the Right Foot If your machine is anything like mine, there are probably 5 or 6 feet that you could use to achieve a 1/4" seam allowance. The key is finding the right foot for you, that you will use on a regular basis.

Viking recently released a new adjustable 1/4" foot with guide that allows you to adjust the needle position. I really like this foot for a couple of reasons: one, the metal guide on the right helps me have a visual and physical guide to keep the fabric feeding straight, and the larger hole allows you to move the needle a couple of positions to really tweak the seam allowance.

How to Adjust the Seam Allowance

Seam Line Matches the 1/4" Line

If your seam line is directly underneath the 1/4" line and your strip set measures 3-1/2", then you've found your accurate 1/4" seam and you don't need to make any adjustments. Yay!

Seam Line is Left of the 1/4" Line

If your seam line is to the left of the 1/4" line, your seam allowance is too wide, so you need to move your needle to the right. If your machine doesn't allow you to move your needle, you may need to mark your machine bed, try a different foot, or use a seam guide that attaches to your machine to accommodate the difference. In my case, I adjusted my needle one position to the right (shown here as 0.3mm position) and stitched another sample:

What is ease in sewing?

Ease is the room in the garment that allows you to move, sit and breathe, it's the difference between the body measurements and the final garment measurements. Patterns are all designed with different amounts of ease, depending on the company and designer.

The ease in a pattern is a combination of:- Body measurements + wearing ease + design ease

A (bare) minimum of ease or wearing ease is around:

5cm / 2" around the bust

2.5 cm / 1" around the waist

3.8 cm / 1 1/2" around the hips

So with wearing ease you are able to move, sit and breathe in the garment, but if you want to add a flowy skirt or maybe a boxy fit. That's where design ease comes in. There are no rules, it's up

to the designer or your personal preference, but there are some rough guidelines you can use. I've made a design ease reference chart, combining examples from different sources below.

An ease reference chart for the bust area in shirts dresses and tops.

Close fitting: up to 7.5 cm [2 1/2"]

Fitted: 7.5cm to 10 cm [3" to 4"]

Semi-fitted: 10 cm to 12.5 cm [4 " to 5"]

Loose fitting: 12.5 cm to 20 cm [5" to 8"]

Very Loose fitting: over 20 cm [over 8"]

An ease reference chart for the hip area, pants, shirts, skirts.

Close fitting: up to 5 cm [2"]

Fitted: 5 cm to 7.5 cm [2" to 3"]

Semi-fitted: 7.5 cm to 10 cm [3" to 4"]

Loose fitting: 10 cm to 15 cm [4" to 6"]

Very Loose fitting: over 15cm [over 6"]

An ease reference chart for the bust area in jackets, blazers.

These all have about 5m extra ease in each fit, because they need to fit over other garments like blouses and dresses.

Fitted 9.5 cm to 10.75 cm [3 3/4" to 4 1/3"]

Semi-fitted: 11 cm to 15 cm [4 1/3" to 6"]

Loose fitting: 15 cm to 25 cm [6" to 10"]

Very Loose fitting: over 25cm [over 10"]

Self – check-5

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

I, Read the following questions carefully& answers on the separate sheets

1. List Method of adding fullness to the garment
2. List add fullness working pattern is increased in three ways:
3. briefly discusses about garment specification sheet
4. What does it mean technical drawing?

II, say true or false

- 1, Pattern-making software is enables you to input your measurements and draft out a pattern
- 2, Drafting is involves measurements derived from sizing systems or accurate measurements taken on a person, dress or body form
- 3, the flat patternmaking method is widely used in the ready-to-wear market because it is fast and accurate.
- 4, Principle of dart Manipulation is many rules for creating, combining and dividing the darts and transferring dart at different places on a pattern piece.
- 5, Dart can be shifted to a new place by slash and spread method and by pivot method.

operation sheet

OPERATION TITLE:- Preparing basic block pattern

PURPOSE: To produce pattern

CONDITIONS : Trainees should know how to take body measurement and interpreting size of garment

Equipment, tools and tap measure record paper, pencil form Monique, standard size materials: chart

Procedures:

Step 1 clarifying the given design drawings

Step 2 preparing materials to construct pattern

Step 3 apply principle of pattern making

Step 4 use formulas to prepare basic block

Step 5 Producing pattern to specified measurements

Step 6 Checking accuracy of seam allowance, ease allowance, seam match, hems and functional openings.

Lap test 1.1

JOB TITLE– Preparing basic block pattern

OBJECTIVES: At the end of this session trainees will be able to know preparing basic block pattern

LABORATORY WORK: Materials Required:

Task1 Interpreting and clarifying design drawings and specifications as required

Task. 2 Applying the principles of pattern making

Task 3 preparing basic block.

Task 4 Producing pattern

TASK5 Checking accuracy of seam allowance

Unit six. Testing patterns

This unit to provide you the necessary information regarding the following content coverage and topics:

- 6.1 Make toile to test the fit and accuracy of pattern.
- 6.2 Altering pattern to reflect test fitting outcomes.
- 6.3 Documenting alterations to patterns

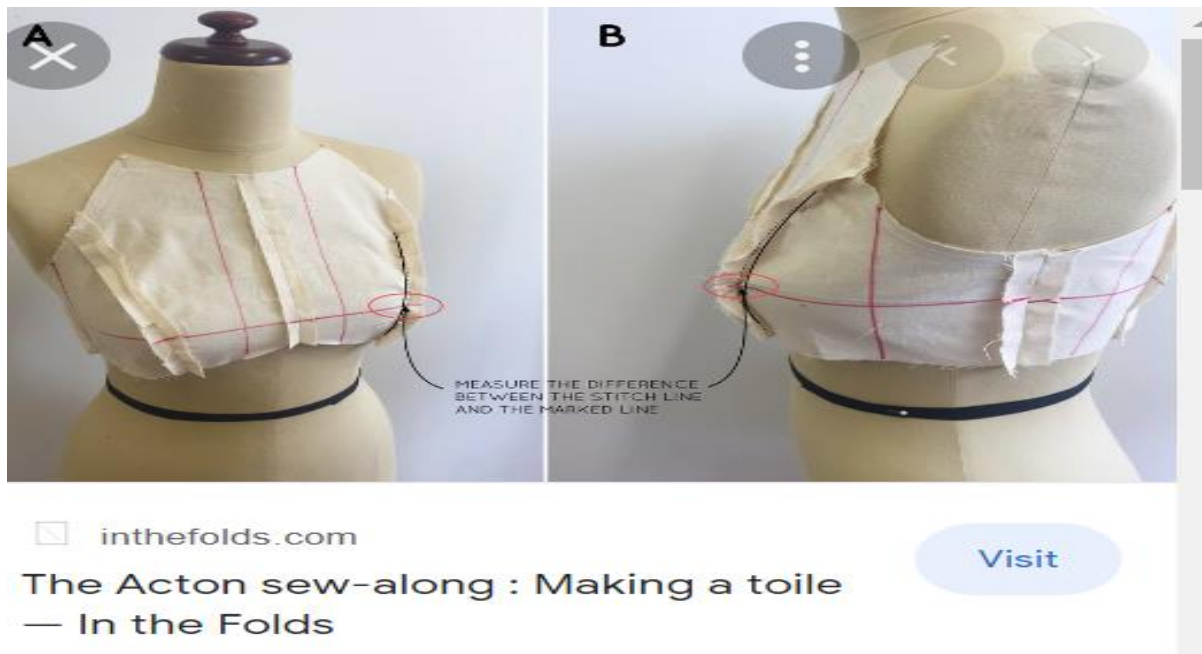
Recording data and passing on to personnel responsible for further action

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

- Making a toile to test the fit and accuracy of pattern.
- Altering pattern to reflect test fitting outcomes.
- Documenting alterations to patterns

6.1 AToile

- an early version of a finished garment made up in cheap material so that the design can be tested and perfected.
- a translucent linen or cotton fabric, used for making clothes.
- A toile (also known as a 'muslin') is basically a draft version of a garment. A toile is normally made from a cheaper fabric, so that you can test the fit of a particular garment before cutting into your real (and normally more expensive) fabric.



6.2 Pattern Alteration:

Pattern alteration means customize patterns to fit according to body shape. For example, shortening arms or lengthening a top. Patterns are prepared according to standard measurement chart which are based on average sizes. After measuring the human body and adding needed ease, compare this measurement to the pattern's measurement.

A pattern can be altered and adjusted three ways:

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

Importance of Pattern Alterations:

1. To get a perfect fit on your figure, garment is cut after the pattern is altered.
2. If the pattern is altered before the fabric is cut, there will be no adjusting in the final fitting.
3. There is no danger of wasting expensive fabric and spoiling the garment.

4. Each adjustment necessary in the flat pattern for saving time and avoid ripping later.
5. Sometimes alterations are essential to get perfect pattern.

Keep the records of pattern alterations and their effectiveness; it is the way to perfect individual requirements.

Patterns Alteration Standards:

1. Original grain-lines are saved.
2. Patterns are kept in balance and proportion.
3. Change is created only where needed and is not obvious.
4. Designer's lines are protected.

Basic Rules or Techniques of Pattern Alteration:

Traditionally, alteration of garment patterns is an essential step in producing attractive and accurately fitting clothing from patterns which already exist. There have been numerous publications by tailoring experts on how to alter garment patterns for different figure forms. Alterations can be done by using measurements, taken by a tape measure and incorporating them onto a paper pattern using the slash, seam or pivot methods.

Basic pattern alteration techniques are given below:

1. All similar pieces must be altered to correspond with the alterations on the major piece.
2. Additions or extensions must be made by taping an extension strip to the edge involved.
3. Altered patterns must have the same character as the original pattern piece.
4. Correct movement on altered pattern to give the altered line the same character as the original line.
5. The altered pattern must be properly flat, as like the original pattern piece.



Fig: Pattern adjustment or alteration

There are also some methods for pattern alteration:

Pattern alteration for flattering the figure

Pattern alteration for non-standard figures

Pattern alteration with experimental methods

Pattern alteration using computer-aided design (CAD) programs

6.3 Alterations to patterns are documented.

The Importance of Process Documentation

Documenting a process will help you achieve 5 key things:

- 1) Helps improve processes. Identify bottlenecks and inefficiencies by documenting the exact processes. You'll quickly see what processes that you need to improve or get rid of.
- 2) Helps train employees. You can use process documents to help new employees understand their job roles and familiarize themselves with the processes they'll be involved in. Even experienced employees can still refer to these documents whenever they want to make sure that they are executing the process right.

- 3) Helps preserve company knowledge. Keep a record of processes known only to a few people specialized in doing them. That way even when they leave, the newcomers can resume the work easily.
- 4) Helps mitigate risks and maintain operational consistency.
- 5) Detailed process documentation is also a vital part of patents and trade secrets.

Self-check-6

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

Test I: discusses the following question

What is Pattern alteration?

List Importance of Pattern Alterations?

List Patterns Alteration Standards?

[operation sheet](#)

Operation title: testing pattern

purpose: to check accuracy of pattern for next process

conditions : trainees should test accurately so as to increase the qualities of production pattern

equipment, tools and materials: toile, push pin

Procedures:

step 1 making a toile to test the fit and accuracy of pattern

step 2 altering pattern

step 3 documenting alterations to patterns

[lap test 1.1](#)

job title– testing patterns

objectives: at the end of this session trainees will be able to know documenting alterations to patterns and check its fitness

laboratory work: materials required: toil monique

task1 making a toile to test the fit and accuracy of pattern

task. 2 altering pattern to reflect test fitting outcomes

task 3 documenting alterations to patterns

Unit seven. Completing work

This unit to provide you the necessary information regarding the following content coverage and topics:

- 7.1 Label all pattern pieces, including pattern information and cutting instructions
- 7.2 Complete and attaching specification sheets to pattern for filing or storage
- 7.3 final patterns are to next production process.
- 7.4 storing finished pattern as required

Recording data and passing on to personnel responsible for further action

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

- Labeling all pattern pieces, including pattern information and cutting instructions
- Completing and attaching specification sheets to pattern for filing or storage
- Directing final patterns are to next production process.
- Filing and storing finished pattern as required

7.1 pattern labeling, pattern information and instruction of cutting pattern

Pattern information includes;-

1. Grain Line

It just indicates the direction you will lay the pattern piece on the fabric. This line means that your pattern piece should be placed on lengthwise grain of fabric. The grain lines are usually parallel to warp threads.

There are 3 types of grain lines:

Straight

Crossed

True biased

2. Size

Size is essential to be indicated on the pattern. Patterns are prepared according to the size of garment. The size of pattern varies as the garment size varies. The sizes that indicated on the pattern are like XS, S, M, L, XL, 2XL, etc.

3. Style Number

Style number is a track number. For instance, one product will have several number assigned to it and style number is number owned by you, which is helpful for identification. Style number helps in future for repeated order.

4. Name of the Pattern

Identification mark of every pattern piece by its name.

For example: Bodice front, Bodice back, Sleeves, Cuffs, Collars, etc.

5. Number of Cut

The type or number of cut need to be marked on the pattern. There are different types of cut are as follows

Cut 1: It means one pattern which is cut single and used independently.

Cut 2: It means two pattern of same size should be cut in the marker.

Cut on fold: It means you have to fold the fabric in half line up that edge of the pattern piece along fold

6. Notch Mark

Notch marks are small marks made on pattern to ensure that one pattern piece will match up to the pattern next to it. They can also be used to show amount of seam allowance in the cut parts.

Notch mark can be of any type out of – V/I/U

7. Seam Allowance

It is the area between the fabric edge and the stitching line on two pieces of material being sewn together. Seam allowance can range from ¼ inch wide to as much as several inches.

The other details which can be enlisted are:

1. Total number of pattern pieces to be cut for the style
2. Centre front and center back should be marked in block pattern.
3. Fold lines should be clearly marked and should be visible.
4. Dart and pleat markings should also be marked.

So these all details are included on pattern

Cutting instructions

Most patterns indicate the right side (the pretty side) using a darker shade than the wrong side. (Occasionally, you may be instructed to cut a fabric on the right side, or to “cut one” meaning to cut on single layer.) Place your fabric on your cutting surface. This can be a large flat table or counter.

Sewing against the grain can mean your fabric is trying to go in a direction it doesn't naturally like to go in. Following the grain will help your fabric look and wear the best. Fabric grain also affects the way fabric will hang and drape.

Pattern labeling

Pattern pieces are crucial in the development of a garment. All patterns need to be clearly and precisely labeled so that the right pattern can be used to make markers on fabric.

Have a look at the labeled pattern below. Notice that all information is labeled clearly, facing the right way?

Move your mouse over the pattern, particularly the labeled sections, to find out the information that needs to be included

How do you label pattern pieces

On each pattern piece, you should include:

1. The name of the pattern.
2. The name of the pattern piece.
3. Size.
4. Cutting instructions.
5. Number of pieces.
6. Date

7.2 Garment specification sheets include:

- Garment sketches. Usually front and back views. For complex garments additional detailed images may be needed
- Measurement sheet for all sizes
- Construction guidelines
- Stitching details and seam types
- Additional comments if needed

7.3 Final patterns are directed to next production process

First pattern. A first pattern is the original pattern developed for designs. The first pattern is generally made on marking paper and requires fitting and pattern corrections. Half a pattern is developed in the workroom (unless instructed otherwise).

An asymmetrical sign always requires a full pattern. Unless the garment is dropped from the line, it will be tested for fit until perfect.

Production pattern. A production pattern is the final corrected and error-free copy. The pattern contains every pattern piece required to complete the garment. The pattern is used by the grader for sizing and by the marker maker for fabric layout.

A pattern chart is placed in front of the pattern set and a design tag is stitched to the garment for tracking. See page 786 at the back of the book for a blank copy.

Marker. A marker is the arrangement of pattern Pieces, either manually traced on marking paper or patterns laid on a special paper and photographed, or patterns are digitized for computer application in laying out the marker.

7.4 Finished pattern are filed and stored as required

Sewing Pattern Storage - 8 WAYS to Store Patterns

1. Idea #1: Magazine Holders.
2. Idea #2: Ring Binders with Clear Plastic Inserts.
3. Idea #3: Large Envelopes in a Tub.
4. Idea #4: Zip lock Bags.
5. Idea #5: Pattern Maker's Hooks.
6. Idea #6: Cardboard Folders or Envelopes.
7. Idea #7: Pants Hangers.
8. Idea #8: Concertina Files.

Self – check-7

Instruction: select the correct answer for the give choice. You have given 1 Minute for each question. Each question carries

Test-I Matching

<i>A</i>	<i>B</i>
-----1. Grain line	essential to be indicated on the pattern
-----2. Style number is	parallel to warp threads
-----3. Size	a track number
-----4. Garment specification sheets	D. Stitching details and seam types

Test II: discusses the following question

Explain production pattern?

- 1 List down types of grain line? And explain?

Participants of this Module (training material) preparation

No	Name	Qualification	Field of Study	Organization/ Institution	Mobile number	E-mail
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		(Level)				
1	Yosef Abebe Getachew	B-level	Fashion design and Textile Engineering	Mary Help College	092368 4937	Josephabebe5@g mail.com
2	Endreyas Miftah Ahimed	B-level	Garment Engineering	Burayu Polytechnic College	091263 6386	miftahendrias2005 @gmail.com
3	Muluembet Admassu Abebe	A-level	Garment Technology	Hawasa Polytechnic College	098513 1178	Muluembetadmas su06@gmail.com
4	Biniyam Genet Chekol	B-level	Garment Technology	Tilili Tvet College	092244 0120	Biniyamgetnet@g mail.com
5	Abdusemed Adem	A-level	Fashion design and Garment Technology	Diredewa Polytechnic Collage	091007 5389	

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