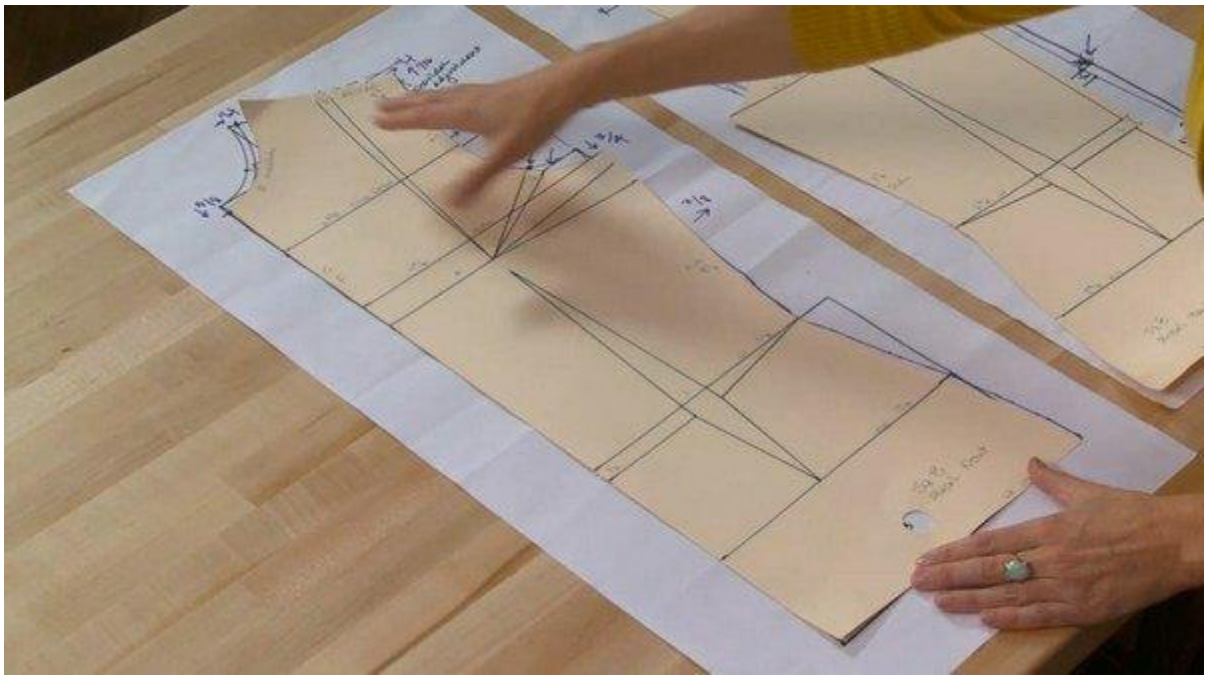
Garment Production

Level-I

Based on March 2022, Curriculum Version 1



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ACRONYM

OHS: - Occupational Health and Safety

SWMS:-.safe work method statements

CB:-centre back

CF:-canter front

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INTRODUCTION OF THE MODULE

Pattern making 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 (Collin). 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.

This module is designed to meet the industry requirement under the Garment Production occupational standard, particularly for the unit of competency: Develop Basic Pattern.

This module covers the units

- Take body measurement
- Assess physical characteristics
- measurements and interpret size standards
- block/basic pattern
- Complete
- Work

Learning Objective of the Module

- Apply Plan and prepare for workstation
- Selecting Take body measurement
- Identify and Assess physical characteristics
- Selecting Obtain measurements and interpret size standards
- Identify Prepare block/basic pattern
- Complete 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: - BODY MEASUREMENT

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

- Reading and interpreting basic sketch
- Understanding workplace procedures and instructions
- Select measuring tools and equipment
- Take body measurement
- Marking body reference points
- Recording fit body measurements

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:

- Read and interpret basic sketch
- Understand workplace procedures and instructions
- Select measuring tools and equipment
- Take body measurement
- Marke body reference points

Recording fit body measurements

1.1 Interpreting basic sketch

What is sketching?

Basically, it is about making a quick drawing, a study, which helps you to represent a design idea. And it has a plethora of applications.

Fashion sketching: people, fashion-looks, and accessories. It is used mainly for illustrations or magazines, e.g., for brand promotion. It helps designers during the first stages of the creation of their collections and helps to introduce changes.

Industrial Design sketching: probably the most known and popular branch of sketching. Obviously, it was created by industrial designers; a good example is car sketching. In this case, all sketches are made with great speed and confidence.

The type of sketching I teach my students via online courses, Instagram Lives, and YouTube tutorials is a little different, it's an interior design sketching, and we usually start by creating a

precise measured perspective with the help of scale rulers. This is followed by freehand rendering, which may take 1-2 hours, and for this stage, we will be using markers. Once you have mastered the construction technique, you will develop the ability to produce quick freehand sketches of interiors

Drawing is the initial step wherein a new product design can be presented and improved on in terms of proportion, balance, color, shape, etc. Also, it is the cheapest way of presenting our design idea for approval and refinement. The following are the basic tools for sketching.

1.2 Pattern making material, tools and equipment

Pattern Making Tools:- To work efficiently, the pattern maker must have the proper pattern making tools and supplies. For making better communication with the workroom and to minimize errors due to misunderstanding, the pattern maker should know and understand some terminology related to pattern-making tools.

List of Pattern Making Tools and Their Function:

There are various pattern making tools which are vastly used in the apparel industry have pointed out in the below with their function:

1. Straight pins,
2. Straight pin holder,
3. Scissors,
4. Pencils and pens,
5. Rulers,
6. Curve rules,
7. Hanger hooks or ringers,
8. Pushpins,
9. Magic mend scotch tape,
10. Black twill tape,
11. Notcher,
12. Tracing wheels,
13. Awl,
14. Metal weight,
15. Measuring tape,
16. Tailor’s chalk.

All the above pattern making tools have explained the below with their function:

1. Straight pins: - The dressmaker used it for draping and fitting.

2. Straight pin holder: - Pincushion or magnetic holder which is used for wrist and table.

3. Scissors: - There are different types of scissors such as paper scissors, fabric scissors, etc.

4. Pencils and pens: - Mechanical pencil and sharpener which is used for pattern work. Red and blue colored pencils are used to identify pattern changes. Black, green, red and blue felt tip pens for pattern information.

5. Rulers: Tailors square (24 × 14) inch metal ruler with two arms forming a 90® angle that measures, rules and squares simultaneously. Also used to a triangle with the measurements to straight lines.

6. Curve rules: - A French curve is one of the several curves used for shaping the armhole and neckline.

7. Hanger hooks or ringers:- It is used to hold the patterns together for hanging on rods.

8. Pushpins:- Pushpins are used for pattern manipulation. It also prevents pattern slippage when cutting several plies of paper together.

9. Magic mend scotch tape:- It is used to mend pattern work.

10. Black twill tape:- Black twill tape is used for the placement of style lines on garments.

11. Notched: - It is used to indicate seam allowance, centerline, and also to identify the front and back of patterns

12. Tracing wheels: - It is used to transfer pattern shapes into the paper.

13. Awl: - It is used to indicate the ending of darts, pocket, trim, and buttonhole placements.

14. Metal weight: Metal weight is used to hold the patterns in place for tracing and marking.

15. Measuring tape: -It is used to measure the size of the pattern

16. Tailor’s chalk:- Tailor’s chalk is used for making adjusted seams and style lines.

Name of Tool	Image	Description of Use
Set Square		This is used to draw perpendicular lines that need to be squared out.
Shears		The Shears is used to cut pattern and fabric, though the Pattern Maker has 2 separate shears for both of them
French Curve		Transparent curve is especially valuable for shaping edges of curved collars, armscyes and necklines. Additional types of these curves are also valuable to have at the patternmaking table.
Notcher		The notch tool has a cutting blade that slips into the pattern's edge leaving an 1/8- to 1/4-inch cut-out. As the patterns are traced the notch cut-outs are marked on the fab-ric. The cutter slashes the fabric at these locations. The seamstress assembles and stitches the garment parts following the slashes
Tracing wheel		This instrument saves hours of needless labor of thread marking. It is used to transfer lines or symbols from one pattern to another or from the final pattern to the muslin or fabric.
Hip curves		It proves useful at the dress designer's table when establishing curves of reveres, or when adding flares to gored skirt sections. It also is used for the side seams and the inseams of trousers and the like.
Measuring Tape		The Pattern Makers companion. It is a soft instrument to measure distances.
Awl		The awl is used to mark the darts and note the main points of a size on a gradation plan.
Transparent Ruler		It is divided into one eighth inch squares. As so many measurements in pattern making are based upon eighths of an inch, this ruler comes into use conveniently. It is also valuable when establishing seam allowances on final Patterns.

1.2 Measuring tools and equipment

1. *Tape Measure*
2. Pen or pencil
3. Record or Note book
4. Dummy (fit model

1. Tape measure: - It is used to take body measurements. The best are made of flexible, synthetic material or glass fiber, which will not tear or stretch and having 150 cm length.



Figure 1 Tape measur

2. Pen/Pencil: - A pencil is a writing or drawing implement with a solid pigment core encased in a sleeve, barrel, or shaft that prevents breaking the core or marking a user's hand. Pencils create marks by physical abrasion, leaving a trail of solid core material that adheres to a sheet of paper or other surface.



Figure 2Pen/Pencil

3. Record or note book/ Measurement Table:- Immediately record the measurement after it is read. Call out the measurement continuously until you have recorded the measurement. It helps to have your pen or pencil and collection sheet. Record the measurement directly onto the sheet. The more times the measurement is copied, the more chances of error there are. Record measurements clearly and neatly, the same way every time. Check to make sure it is accurate and legible. The chart below shows how to write numbers that are easy to read.

4. Male and Female dummy:- Have you ever seen an entertainer make a doll look like it's talking? The entertainer is using a *dummy* — a doll made to look like a person.

A dummy is a type of doll that looks like a person. Entertainers called ventriloquists can make dummies appear to talk. The automobile industry uses dummies in cars to study how safe cars are during a crash. A dummy can also be anything that looks real but doesn't work: a fake. Actors in a play might use certain props that are dummies, such as a dummy laptop. *Dummy* is also an insult used to mean "an ignorant person."



Figure 3Male and Female dummy

1.3 Take body measurement

1.3.1 The horizontal measurement

Measuring the horizontal distance between two points on the surface of earth is one of the most fundamental surveying operations**.** It is also one of the most basic engineering measurements. It can be measured in millimeters, centimeters, meters, and kilometers in SI unit system and in inches, foot, yard and mile in FPS unit system.

Shoulder width– this measurement taken from the lowest point of the left shoulder to the lowest point of the right shoulder

Back Width Measurement

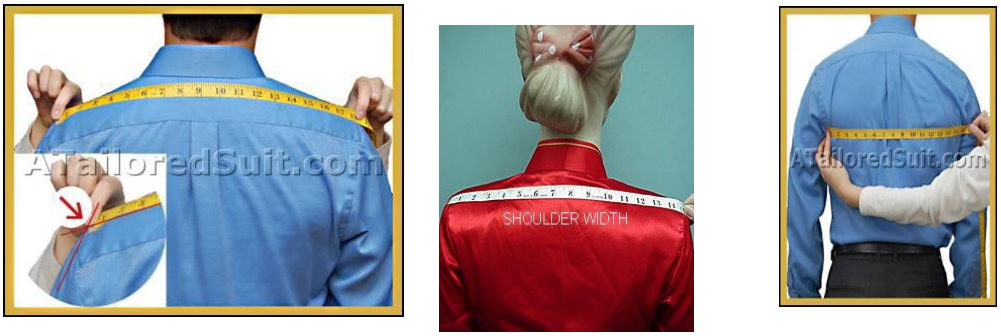


Figure 4 Back Width Measurement

1.3.2The circumferential measurement

A body circumference measurement is simply the circumference around a specific area of your body when measured with a measuring tape. Circumferential measurements are taken at specified locations on the torso, which are usually level with markers that have been placed at a certain height on the torso. Once a reference marker is selected, a circumferential line is placed around the torso at this point.

Circumference measurements example

- Neck.
- Chest (at the mid- or nipple-line)
- Waist (at the narrowest part, usually above the navel)
- Hips (with feet together, measure at the widest part of the buttocks)
- Thighs (6 inches above the knee cap)
- Calves.
- Biceps (upper arm)

Chest girth Bust girth /Bust circumference:- The required bust girth increase of 5 inches (from 36 to 41 inches) calls for the waist increment due to bust change (2.11 inches or 5.4cm) to be added two and a half times to the calculated waist of the woman with a height of 68 inches (172.7cm) and a bust of 36 inches (91.44cm) or, finally, a woman with a height of 68 inches (172.7cm) and a bust girth of 41 inches (104.1cm) will have waist of 34.175 inches (86.8cm).

From: Sizing in Clothing, 2007





Figure 5Chest girth/ chest Bust girth /Bust circumference

Waist girth/ Waist circumference – this measurement taken around the narrowest part of the torso.





Figure 6Waist girth/ Waist circumference

Hip Measurement

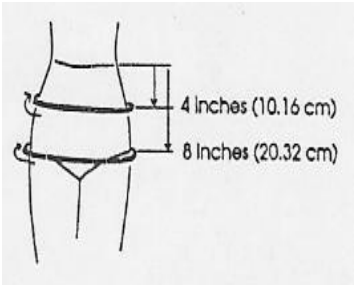




Figure 7 Hip Measurement

- **First hip girth/ First hip circumference** – this measurement taken around the hip level where the stomach is fullest.
- **Second hip girth/ Second hip circumference** – this measurement taken around the hip level where the buttocks are fullest. Measure the widest part of the hips approx. 20 cm from the waistline

***Note that*: -** There is a **4 inch or 10.16 cm** distance between the first and second hip level

Armhole girth/ Armhole circumference – this measurement taken around the armhole

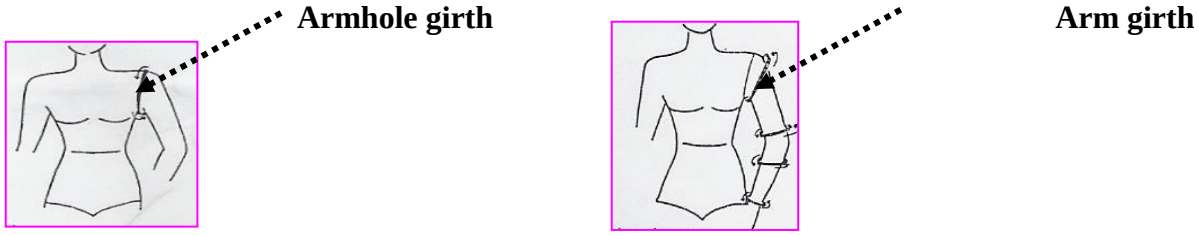


Fig 2.7 Figure 8Armhole girth/ Armhole circumference

Arm girth – this arm.measurement taken around the

Thigh Measurement and Knee Measurement



Fig 2.8 Figure 9Thigh Measurement and Knee Measurement

1.3.2 The vertical measurement

Back/Back length/ Back waist length/ Nape to Waist and Front/ Front length/ Bodies length



Fig 2.1 Figure 10Back/Back length/ Back waist length/ Nape to Waist and Front/ Front length/ Bodies length

This measurement taken from the center of the back neck down to the waistline level. This measurement taken from the neck point or highest point and of shoulder passing over the bust down to the waistline level.

Length of sleeve –Place the hand on hip so that the arm is bent. Then, measure from the shoulder bone over the elbow to the desired length in the arms

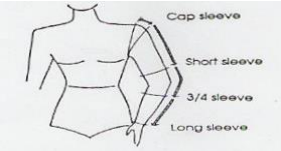


Fig 2.2 Figure 11Length of sleeve

Trousers' Out-seam Measurement: - Measure from the top of your pants waistband to the floor along the outside of your leg.

Length of skirt – this measurement taken from the waist level down to the desired length.

Trousers' Inseam Measurement: - Measure from the lowest part of your crotch area to the floor.



Figure 12Trousers' Out-seam Inseam, Measurement and Length of skirt

OPERATION SHEET #1

Operation title: - measuring fit model

Purpose**: -** enable to develop the skill of measuring fit model

Equipment, tools and materials:-

Tools

- Tape measure,
- Pen/pencil and
- Eraser,
- Measure chart,
- Standard chart,
- Dummy

Instruction: - given necessary tools & equipment's. You are required to perform the following within 30 minutes

Procedure:-

- Every thing should be in the right place.
- Wear undergarments or bodysuit when measuring.
- Use tape measure that does not stretch.
- Tie a string around your natural waistline.
- Pull the tape snug, but not too tight.
- Be sure to keep the tape parallel to the floor.
- Take girth measurements, then length measurements.
- Insert two fingers in taking girth measurements

Precautions:-

- Follow body reference points;
- use correct Tools & equipment's

Quality criteria:-

- Check body reference points
- Take body measurement of fit model accurately

1. Instructions you are required perform the following Prepare necessary tools & equipment's according to the given specification.

Measure &Record body measurements of fit model

- Request your Trainer for evaluation &feed back

SELF CHECK QUESTION 1

Directions: Read the following questions carefully, answer on the separate sheets

PART I SHORT ANSWER

1. What are body reference points?
2. Write important Tools & equipment's to measure Fit Model
3. What are the three of parts of the body to be measurement?
4. What is the Relationship Back/Bust/Chest?
5. What is the Back Types?
6. What is body characteristics related with proportions?

PART 2 MULTIPLE CHOICE

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

1. By which type of measurement should a pattern is constructed
   a. Body measurement c. Add-on value
   b. Finished measurement d. Seam allowance
2. Body measurement taken from the shoulder down to waist is:
   a. Bust depth c. Shirt length
   b. Back waist length d. Front waist length
3. The first step in drafting basic pattern is to draw:
   a. Diagonal line c. Perpendicular line
   b. Horizontal line d. Straight line
4. One of these rules is not needed in taking body measurements.
   a. Wear undergarments or bodysuit when measuring
   b. Pull the tape snug, but not too tight
   c. Wearing hill shoe
   d. Be sure to keep the tape parallel to the floor
5. Which of the following is NOT categorized under circumferential measurement:
   a. Arm girth c. Bust point width
   b. Bust girth d. Waist circumference
6. Flat-Pattern Designing is
   a. Working out the pattern of a garment either in the material itself or by cutting a pattern using the foundation pattern as a basis.
   b. Spaced added between the cut edge and stitching line of the fabric.
   c. The fold that originates in the waistline.
   d. A fold of fabric wider at one end coming to a point of bust at the end which gives shape to garment.
7. The basis of the foundation pattern is the individual:
   a. Figure c. Individuality
   b. Personality d. Measurement
8. Which one of the following is the common measurement for any garment?
   a. Hip c. Shoulder

b. Bust d. Model length

9. One of the following is NOT measuring tool.

a. Ruler c. Tape measure

b. Pinking shear d. Meter stick

10. Which one of the following is NOT a basis of demographic segmentation of a market?

a. Region c. Age of customer group

b. Sex d. Religion

UNIT TWO: - ASSESS PHYSICAL CHARACTERISTICS

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

- body characteristics
- fit model

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:

- Identifying and comparing body characteristics
- Analyzing fit model

2.1 body characteristics and fit model

What is a Fit Model?

Generally, a fit model is someone who tries on clothing for fashion designers. They check things like the fit and drape of the fabric, as well as the overall appearance. Fit models are basically live mannequins, who meet specific height, bust-waist-hip, arm, leg, and other measurement requirements.

Body characteristics and body measurements effects on sizing .A well-fitted garment adjusts naturally to the movements of the wearer, is comfortable, presents a pleasing appearance in harmony with the figure, and may contribute to the wearer's sense of well-being, providing appositive psychological experience focusing on the individual's self-image.

Body Shapes or Figures. It refers to the overall structure of the body. This may be of any combined qualities in height, size and shape. *Tall, narrow rectangle or column.* This body type is favored by fashion designers as models with this figure make clothes look great.

Circle (Apple). This silhouette has all the emphasis in the middle of the body, with extra weight being carried at the waistline

Bottom-heavy triangle (the classic: - Carry too much weight on the hip, with the top half of the body small in Comparison with the lower half

Top- heavy Triangle. This shape applies to those with who top heavy, with width in the body and narrowest hips, creating a triangular shaped figure.

SELFE CHECK TWO
PART THREE SHORT ANSWER TYPE

Give short and precise answer for the following questions.

1. What tools are needed in taking body measurements?
2. What body measurements should be taken in drafting a skirt pattern?
3. Why is accurate body measurement important?
4. Explain geographic segmentation of a market.

UNIT THREE: - MEASUREMENTS AND INTERPRET SIZE STANDARDS

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

- Obtaining measurements
- type of measurements
- Categorizing Sizes
- Recording and passing data

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:

- Identify drawing Quality criteria.
- Select drawing Template.
- Draw different line.
- Sketching a pattern piece and garment style.
- Identify and label relevant parts of sketch

3.1 type of measurements

Measurements are the foundation of pattern drafting. They establish basic axes which are natural to the body. These axes are then used to reconstruct the shape of the body onto the paper. They must take with complete accuracy

There are several parts of the body to be measured. These are taken in:

- ☞ Vertical measurement
- ☞ Horizontal measurement
- ☞ Circumferential measurement

Simple calculation is a process in which the four fundamental operations maybe involved to measure accuracy of measurement and to have a well-fitted garment.

3.1.1 Four Fundamental Operations Used for Simple Calculations

1. Addition,
2. Subtraction,
3. Multiplication, and
4. Division

Applications of Simple Calculation

Simple calculation is an easy mathematical application used to determine the accurate measurement of body parts, length and width of materials, and cost needed to create apparel for the clients/customers.

3.2 Measurement system

There are two kinds of measurement system as we have learned in the previous lesson. These are the Metric System, where centimeter is used as standard measure of length by designers of the new generation, and the English System expressed in inches for basic unit. These systems are used in measuring the different parts of the body.

When we put 1 inch on our Individual Measurement Chart (IMC) it should be accompanied by its equivalent length of 2.54 centimeters of the Metric System.

3.3 Categorizing Sizes

Table 1 Reference size for children's or babies wear trouser

1	Height	60	70	80	90	100
2	Waist	40	42	45	47	50
3	Hip	41	44	47	52	58
4	crotch depth	13	14	15	16	17
5	inside leg length	17	22	27	32	38
6	thigh girth	25	26	27	30	32

Table 2 Reference size for children's or baby's wear upper body part

1	Height	60	70	80	90	100	110	120	130	140	150	160

2	Neck base girth	Girl	23	24	25	26	28	29	30	32	33	35	37
		Boy								33	35	37	39
3	Bust girth		42	45	48	50	54	56	60	64	68	74	80
4	Shoulder width		17	20	22	24	27	29	30	32	35	37	40
5	Back length	Girl	16	18	20	22	24	26	28	30	32	34	37
		Boy				23	25	28	30	32	34	37	42

Table 3Reference size for women's (height 160-170cm)

No.	Body measurement	SML	MED	LGE	XLGE
1	Size symbol	S	M	L	XL
2	Bust	82	88	94	100
3	Waist	62	68	74	80
4	Hip	87	93	99	105
5	back width	32.8	34.4	36	37.6
6	Chest	30.6	32.4	34.2	36
7	Shoulder	11.9	12.3	12.6	13
8	neck size	35.5	37	38.5	40
9	Dart	6.1	7	7.9	8.8
10	top arm	26.4	28.4	30.4	32.4
11	Wrist	15.3	16	16.7	17.4
12	Ankle	23.1	24	24.9	25.8
13	nape to waist	39.2	40	40.8	41.6
14	front shoulder to waist	39.2	40	41	42
15	armhole depth	20.2	21	21.8	22.6
16	waist to knee	57.7	58.5	59.3	60.1
17	waist to hip	20.2	20.6	21	21.4
18	waist to floor	102.5	104	105.5	107
19	body rise	27	28	29	30
20	sleeve length	57.4	58.4	59.4	60.4
Extra measurement(garment)					
21	cuff size shirt	21	21.5	22	22.5
22	**cuff size two piece sleeve**	**13.5**	**13.75**	**14**	**14.25**
23	**trouser bottom width**	**21.5**	**22**	**22.5**	**23**

SELF-SHEET 3

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

1. by which type of measurement should a pattern is constructed

a. Body measurement c. Add-on value

b. Finished measurement d. Seam allowance

2. Body measurement taken from the shoulder down to waist is:

c. Bust depth c. Shirt length

d. Back waist length d. Front waist length

3. One of these rules is not needed in taking body measurements.

e. Wear undergarments or bodysuit when measuring

f. Pull the tape snug, but not too tight

g. Wearing hill shoe

h. Be sure to keep the tape parallel to the floor

4. Which of the following is NOT categorized under circumferential measurement:

c. Arm girth c. Bust point width

d. Bust girth d. Waist circumference

5. Which one of the following is the common measurement for any garment?

c. Hip c. Shoulder

d. Bust d. Model length

Table 5 chose

A	**B**

1. Bottom heavy triangle **2.** Body characteristics and body measurements **3.** It is a feminine, well- balanced **4.** create triangular shaped figure **5.** Tall, narrow rectangle or column **6.** It refers to the overall structure of the body **7.** The suggested design for Hourglass shape. **8.** Having Thick waist average hips & Slim legs **9.** Cause of Difficulty **10.** All the emphasis in the middle of the body,	A. Narrow frame B. Hourglass. C. Top- heavy Triangle D. Sway back or large hip E. Sway back & large hip F. Oval shape G. Body Shapes or Figures H. Hour glass I. Favoured by fashion designers J. Carry to much weight on the hip K. Effects on sizing L. Unfussy jacket in simple line

UNIT FOUR: - BLOCK/BASIC PATTERN

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

- Interpreting and clarifying as required Design drawings and specifications
- Applying pattern making Principles according to specifications
- Methods and formulas
- Producing basic garment Pattern
- Pattern pieces

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:

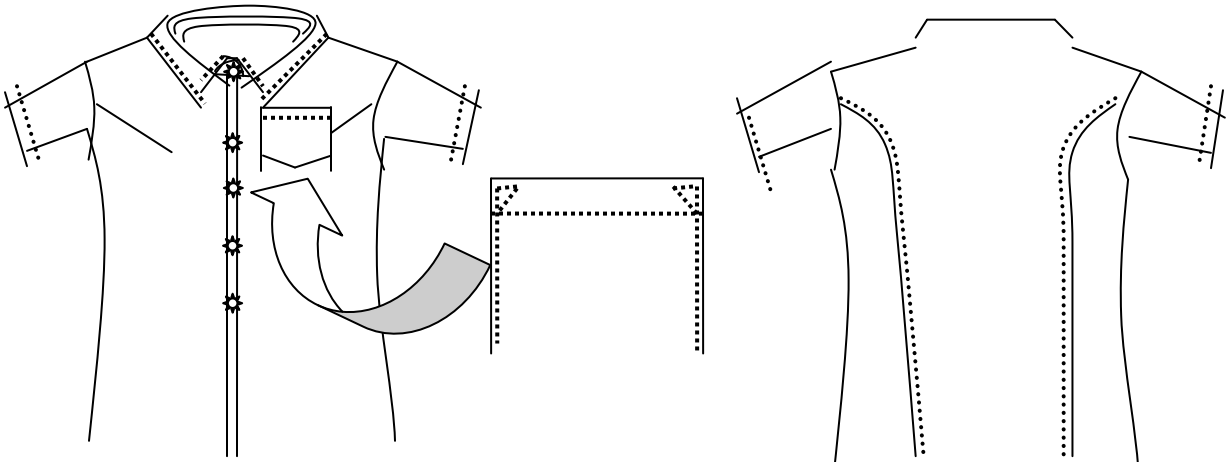
- Identify drawing Quality criteria.
- Select drawing Template.

- Draw different line.
- Sketching a pattern piece and garment style.
- Identify and label relevant parts of sketch

4.1 Interpreting Design drawings and specifications

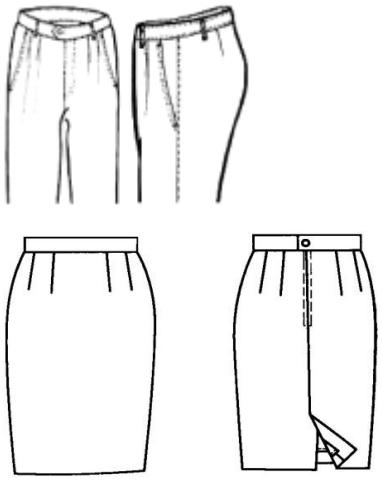
Pattern making is the art of manipulating and shaping a flat piece of fabric to conform to one or more curves of the human figure. Pattern making is a bridge function between design and production. Patternmaker typically makes a pattern from a flat sketch with measurements or a two dimensional fashion 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. Before commencing developing a pattern, you should interpret and analyze the design of the given garment. Unless you interpret each part, step by step, your final pattern might get mistake. For example interpret the following design Blouse /shirt, skirt trouser

Blouse/shirt



Front

Fig 13 blouse front and back



Front and back

4.2 Pattern making Principles according to specifications

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 (Hudson). 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

Pattern making 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 (Cooklin).

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.

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).

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

Principles of pattern making contain information about the three main principles:

- **Dart manipulation**
- **Added fullness**.
- **Contouring.**

Understanding the different ways of making a pattern, as a tailor, we select the block pattern for each style or components of a garment. For example, the block patterns of a basic blouse, skirt and trouser are

1) Front bodies,
2) Back bodies,
3) The sleeve,
4) The back skirt,
5) The front skirt,
6) Front panel and
7) Back panel.

4.3 Block/ Basic pattern

As apparel maker we will make a complete pattern for some basic garments out of the following styles:

1. Garments covering the *upper or the whole body*:
2. Garments covering the *lower body* only:

Blouse measurements

- ☞ length
- ☞ Bust girth
- ☞ Waist girth
- ☞ Hip girth
- ☞ Sleeve length
- ☞ Back height/Armhole depth
- ☞ Back length (back neck to waist)
- ☞ Hip depth (waist to hip)
- ☞ Neck circumference
- ☞ Armhole/ Arm hole circumference
- ☞ Shoulder/ Shoulder width
- ☞ Front Length/ Front waist length
- ☞ Chest width/ Front chest width
- ☞ Back chest width
- ☞ Bust depth
- ☞ Bust point
- ☞ Distance

Skirt measurements needed

- ☞ Waist
- ☞ Hip
- ☞ Waist to hip and
- ☞ Skirt length.

Measurements should be given to construct the basic **Trouser:**

- ☞ Waist
- ☞ Hip/Seat
- ☞ Body rise / Crotch depth (Including waist band depth)
- ☞ Bottom opening
- ☞ Waist band depth= 4 cm (depend on style) Inseam/ in leg

4.3.1 Pattern pieces and information including

- ➢ grain lines,
- ➢ notches,
- ➢ 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
- ➢ Notches/ Balance marks: Marks made on edges of pattern pieces that show

Pattern information: all information on each pattern pieces including name of the pattern components, the final measurement which indicate the distance with arrow, the number of pattern cut ,grain line, cutting line seam allowance ,notches ,functional openings. Pattern is finalized and checked to ensure accuracy, completeness and compliance to design specifications. Final patterns are directed to next production process.

4.3.2 Checking of pattern pieces

Pattern pieces are checked for accuracy, including:-

- ➢ seam allowances
- ➢ ease allowances
- ➢ seam match
- ➢ hems and functional openings

4.3 Methods and formulas

Methods of Pattern Making

- ❖ 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 slipper 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 stoppers are then manipulated to create fashions.

A basic slipper 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.

Self-cheek 4

PART 1 CHOOSE

I. Choose and answer the following questions.

1. _____is used to create basic foundation or design patterns.

   A. Pattern C. paper

B. Draping D. Drafting

2. It is a simple patter n that fits the body with just enough ease for movement and comfort.

A. Modeling C. Drawing tools

B. Measurement D. Flat pattern

3. It used to shaping curve line

A. French curve C. Ruler

B. Set square D. Tape measure

1. It is used to transfer lines or symbols from one pattern to another.

A. Pattern paper C. Pencil

B. Tracing wheel D. Set square

2. The pattern making tools which used to make hip line is

A. Tape measure C. French curve

B. Transparent ruler D. Hip curve

PART 2 SHORT ANSWER

II. Short answer

1. What is Pattern making in general? (2)
2. What is the use of Set Square during pattern making? (1)
3. Write the three pattern making method.(3)
4. Write the pattern making tools and materials.(4)

Directions: Answer all the questions listed below.

1. Write the three ways of making a pattern (3 points)
2. What is Drape pattern?(2 points)
3. It is a foundation pattern constructed to fit an average figure.(1 point)
4. Which pattern is most expensive as it utilizes more fabric?(1 point)
5. Write the measurement part of skirt (4 points)
6. Write the measurement part of shirt (14 points)

UNIT FIVE: - COMPLETE WORK

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

- pattern information's
- Production patterns to next production process.
- File and store finished pattern.

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:

- Apply pattern information's
- Ready production patterns to next production process.
- File and store finished pattern.

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.

5.1 Producing basic garment Pattern, pattern information's and finished pattern.

Pattern making is a bridge function between design and production. 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

PROCEDURES:-Front & Back Part of Skirt

STEP 1

1. Square down waist to hip (A-B) and skirt length (A-C)
2. Square across ½ hip + 1,5 (A-D)
3. Square across ½ waist + 1 and mark on upper line (E)
4. Enhance 1,0 cm up (f) after splitting ½ by ½ (i.e. AF=FD)

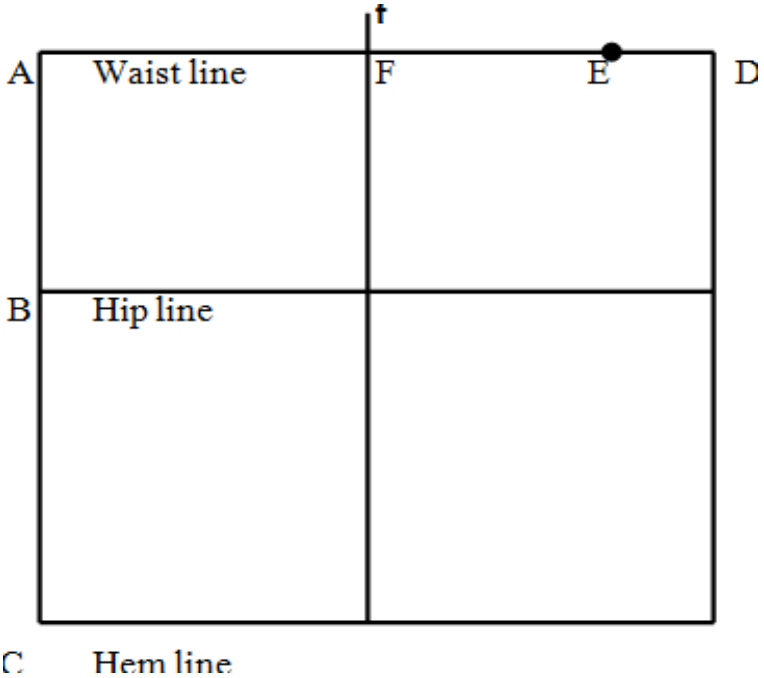


Fig 6 Front & Back Part of Skirt

Pay attention to the difference between waist and hip measurement in construction:

In the given example:

½ waist +1cm = 36 + 1= 37 cm

½ hip + 1.5 cm = 48.5 + 1= 50 cm

Difference: 13 cm

The following possibilities of distribution are possible:

- 1 dart front pattern
- 1-2 darts back pattern (depends on calculated total difference >13 and body shape)
- Hip curves (1/2 front and ½ back)

Recommendation:

- ½ value of total difference + (0-1 cm) = hip curves
- Dart front: 1,5 - 2, 5 cm
- Dart back: max 3-4 cm -otherwise second dart necessary

Please check body shape!

Here in this example the following distribution is chosen:

- Hip curve: 8 cm
- Dart front: 2 cm=13
- Dart back: 3 cm

As per the above concepts, make the following:

1. Adjust waist at side seam, draw in symmetric hip curves
2. Draw in shaped waist lines
3. Dart front: 6-8 cm from side seam
4. Dart back: ½ - ½

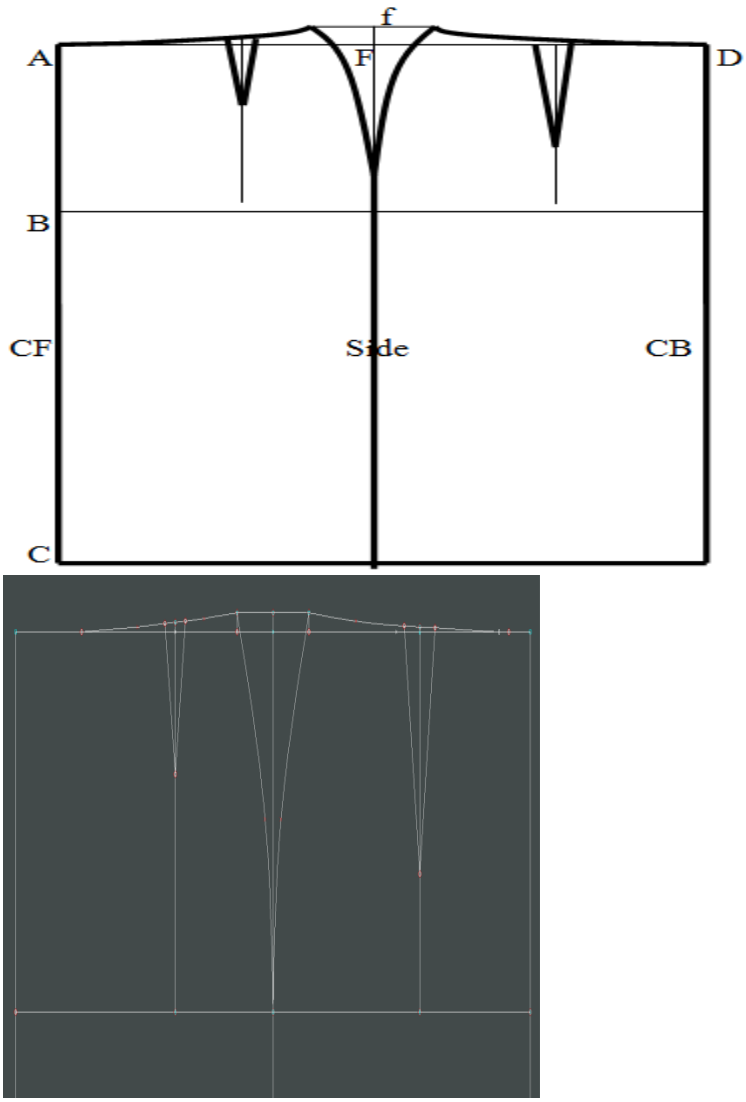


Fig. 6.1 Basic skirt construction

STEP 3 Finish your pattern by tracing from the block.

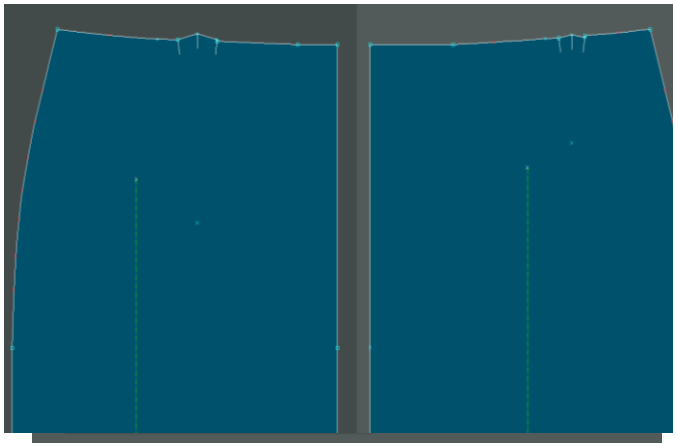


Fig. 4 Basic skirt pattern

PRECAUTIONS:

- ☞ Take care on taking body measurements and analysis of help measurements since ones your measurement is wrong, you can NOT find the correct pattern for the specific size.
- ☞ Use appropriate drawing instruments when you are making your pattern.

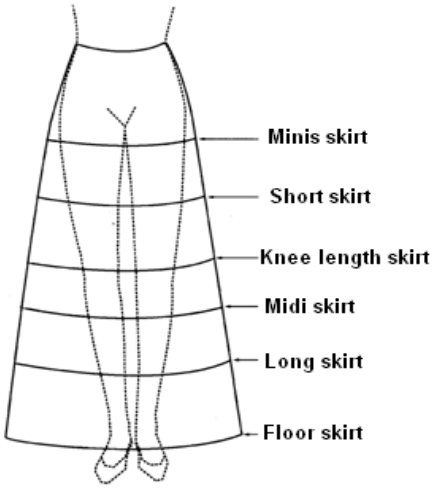
QUALITY CRITERIA:

- ☞ The measurements on your pattern should confirm with your analyzed measurements.
- ☞ The pattern should look like accurate, neat, and complete.
- ☞ Necessary information and symbols should be written on each piece of pattern.

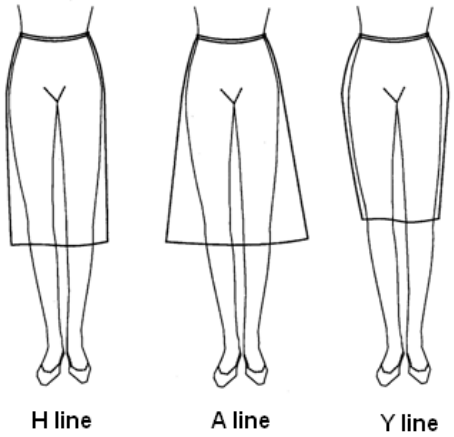
5.2 Classification and types of skirts

In general, skirts can be divided into three categories:

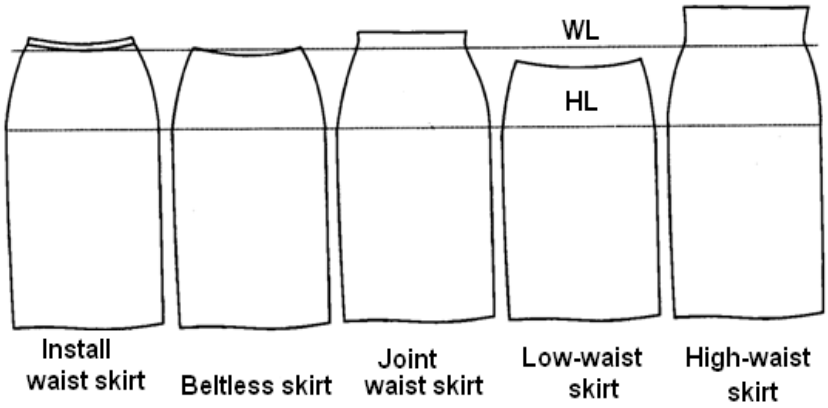
5.2.1. According to the length: minis skirt; short skirt; knee length skirt; midi skirt; long skirt and floor skirt.



5.2.2. According to the silhouette: ‘H ’line, ‘A’ line and ‘Y ’line.



6.2.3. According to the waistband of skirt: install waist skirt, beltless skirt, joint waist skirt, low -waist skirt and high-waist skirt.



5.2.4 Skirts can be divided into four categories according to the shape: straight skirt, bias skirt, pleated skirt and flare tiers skirt.

Operation Sheet – 5	**Basic skirt Pattern**

PURPOSE: enable to prepare basic/block skirt pattern accurately

EQUIPMENT, TOOLS AND MATERIALS: -

TOOLS

- scissors,
- ruler and square rule
- marker pens,

- hole punch,
- pins
- Hip curve

CONDITIONS OR SITUTATIONS FOR THE OPERATION: - given necessary tools & equipment's. You are required to perform the following within20 minutes

PROCEDURE:-

- Interpret & clarify design drawing and specifications
- Apply principle of pattern making
- Document and methods formulas
- Specify measurements to produce pattern
- Check pattern pieces for accuracy, including seam allowance, seam match ,hem &functional openings

PRECAUTIONS:-

Planning &preparing tools &equipment's for making basic skirt pattern

QUALITY CRITERIA:-

(1.) Design specifications

Example

1) Size Selection: 160/66A

So, Height: 160cm

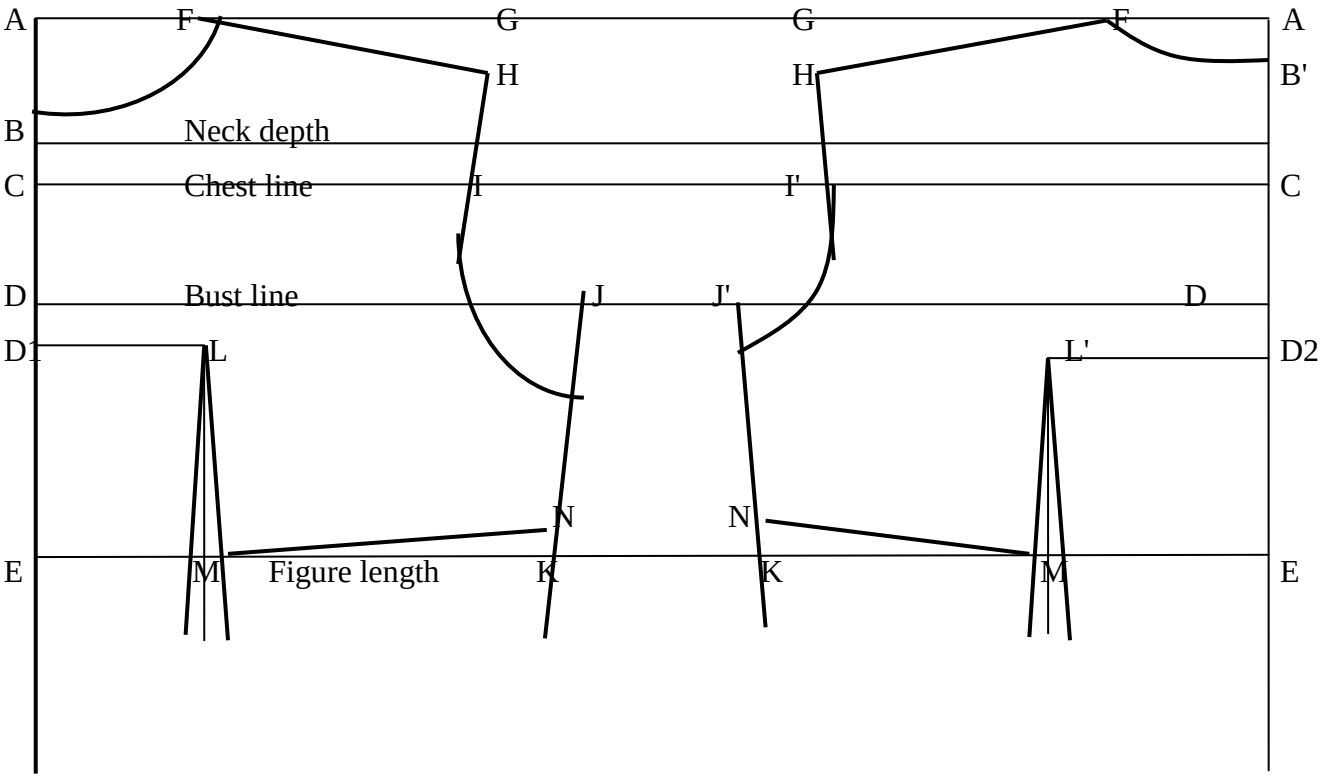
Waist girth: 66cm (without ease)

Somatotype: 'A'

Hip girth: 90cm (without ease)

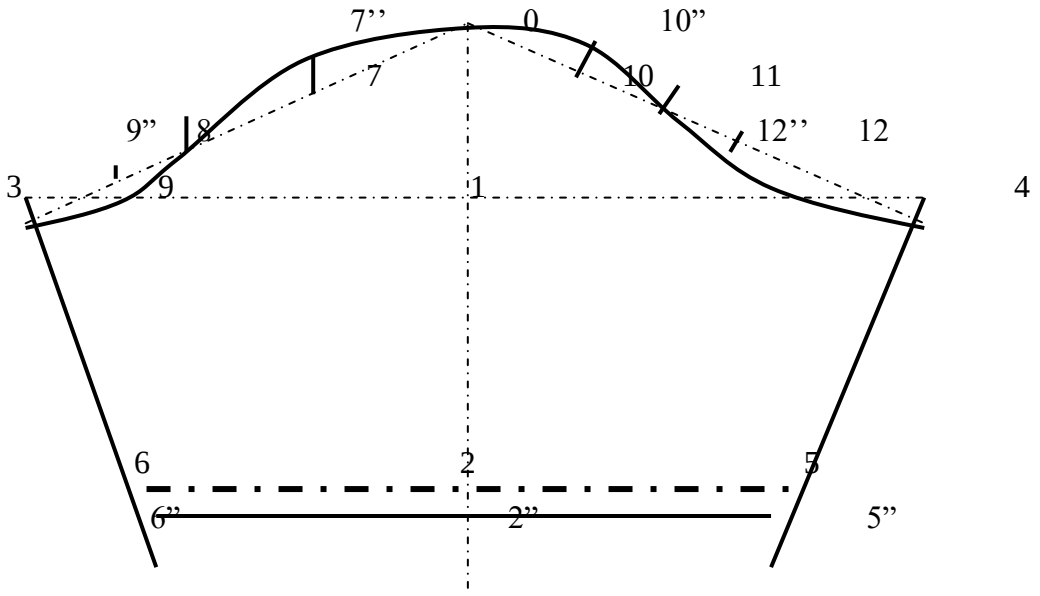
Basic blouse/shirt

- ✓ ***Chest girth*:** twice the distance across the shirt measured below the bottom of the armholes when the shirt is buttoned.
- ✓ ***Back length***: the distance from the center of the base of the collar to the bottom of the shirt.
- ✓ ***Front length***: the distance from the neck point (the point where the yoke meets the collar) to the bottom of the shirt.
- ✓ ***Sleeve length***: the distance from the shoulder seam to the sleeve end.
- ✓ ***Yoke length***: the distance between the two shoulder seams measured along the center of the yoke.



Sleeve Pattern:-Cut along point 0, 10”, 11, 12”, 4, 5, 5”, 2”, 6”, 6, 3, 9”, 8, 7” and up 0.

Production pattern Sleeve: - Use1 cm seam allowance all sides on ready pattern (cut 2 pcs.)



PRECAUTIONS:

- Take care on taking measurements of armhole on the bodice pattern.
- Amendment should be taken after constructing the sleeve.

QUALITY CRITERIA:

1. The measurement of sleeve head circumference should be equal to armhole + 1-1.5 cm..
2. The pattern should look like accurate, neat, and complete.
3. Necessary information and symbols should be written on the finished pattern.

Operation Sheet 5.1	**Basic Bodies Block Pattern**

PURPOSE: enable to prepare basic/block Bodies pattern accurately

EQUIPMENT, TOOLS AND MATERIALS: -

TOOLS

- ✓ scissors,
- ✓ ruler and square rule
- ✓ marker pens,
- ✓ hole punch,
- ✓ pins
- ✓ French curve

CONDITIONS OR SITUTATIONS FOR THE OPERATION: - given necessary tools & equipment's. You are required to perform the following within20 minutes

PROCEDURE:-

- ✓ Interpret & clarify design drawing and specifications
- ✓ Apply principle of pattern making
- ✓ Document and methods formulas
- ✓ Specify measurements to produce pattern
- ✓ Check pattern pieces for accuracy, including seam allowance, seam match ,hem &functional openings

PRECAUTIONS:-

Planning &preparing tools &equipment's for making basic skirt pattern

- **Measurements required for structure drawing of the trousers**

Waist girth: 68cm (with 2cm ease)

Hip girth: 98cm (with 8cm ease)

Table 4Measurements required for structure drawing of the trousers

Positions	**Trousers length (L)**	**Waist girth(W)**	**Hip girth(H)**	**Crotch depth**	**Trousers bottom width**
Size	102cm	68cm	98cm	29cm	22cm

3. Sequence of operation

1) Draw framework of the front and the back piece

Front (1) Basic front side seam line:

(2) Bottom line:

(3) Length line (waist line): trousers length- waistband width (4cm).

(4) Crotch depth line (thigh line): crotch depth- waistband width (4cm).

(5) Hip line: one third the measurement from the waist line to the crotch depth line.

(6) Knee line: one second the measurement from the hip line to the bottom line, and 4cm up.

(7) Front crotch line: H/4-1cm

(8) Front crotch width line: 0.4H/10

(9) Front side seam point: 0.7cm inward from the side seam.

(10) Crease line: [0.4H/10+ (H/4-1cm)-0.7cm) divided by 2.

(11) Basic inseam line:

Back

Extend the bottom line, waist line, hip line, crotch depth line and the knee line.

(12) Basic side seam line:

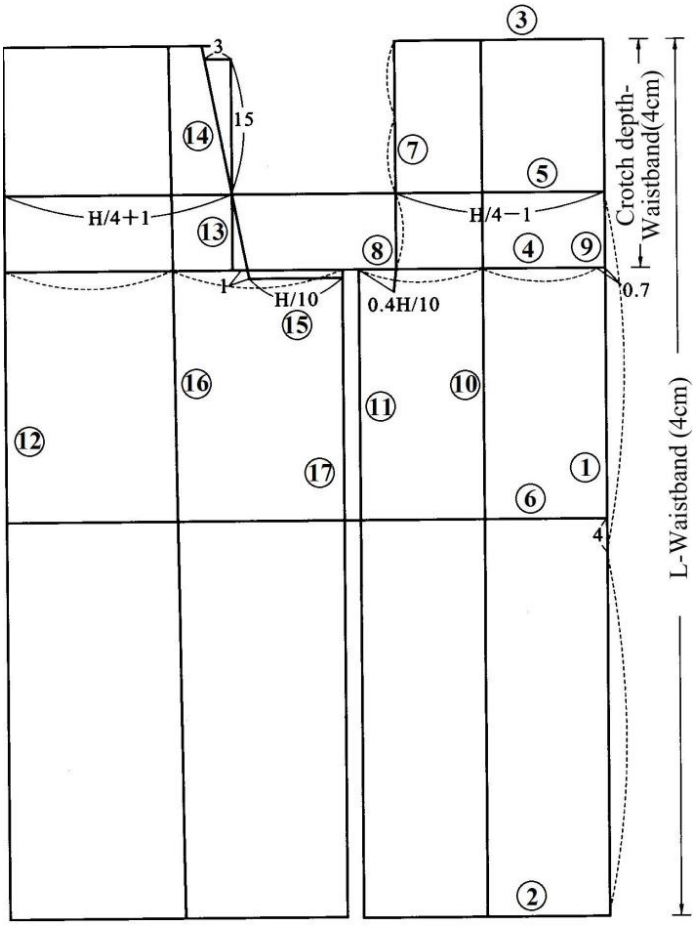
(13)Hip size: H/4+1cm:

(14) Back crotch line: 15:3.

(15) Back crotch width line: first 1cm down from the front crotch depth line, then measure H/10.

(16) Back crease line: haft the measurement from the side seam to inseam line.

(17) Basic inseam line.



2) Draw outlines of the trousers

(1)Up line of waist: 2.5cm

(2) Front waist size: W/4-1cm+4.5cm (for pleats or darts).

(3) Front bottom width: bottom width-2cm

(4) Front knee width: connect the mid-point of front crotch width to the front bottom width point, the line intersect the knee line, measure from the intersection point to crease line.

(5) Back waist size: W/4+1cm+4cm (for darts).

(6) Back bottom width: bottom width +2cm.

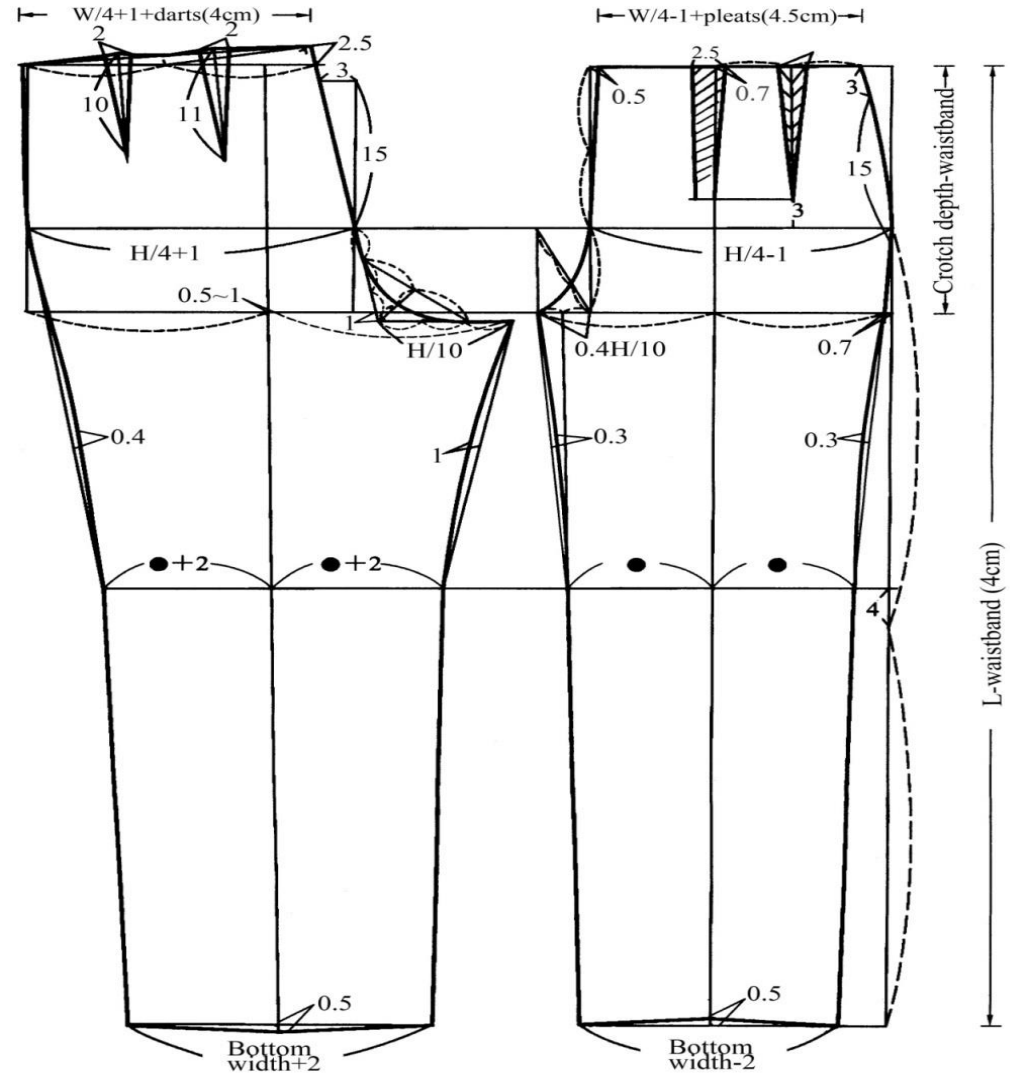
(7) Back knee width: front knee width +4cm.

(8) Construct two pleats on the front waistline width 2.5cm.

(9) Construct two darts on the back waistline: Divide the back waistline into three parts, mark points of center dart line, width 2 cm, length 10cm and 11cm .

Front Draw the side seam (curving inwards 0.3cm), the waistline (with slight curve), the front crotch curve, the inseam line (curving inwards 0.3cm) and curved the hemline and then move it up 0.5cm on the crease line.

Back Draw side seam (curving inwards 0.4cm), the waistline, the back crotch (with curve), inseam line (curving inwards 1cm) and the curved hemline, then move it down 0.5cm on the crease line.

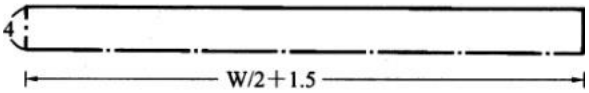


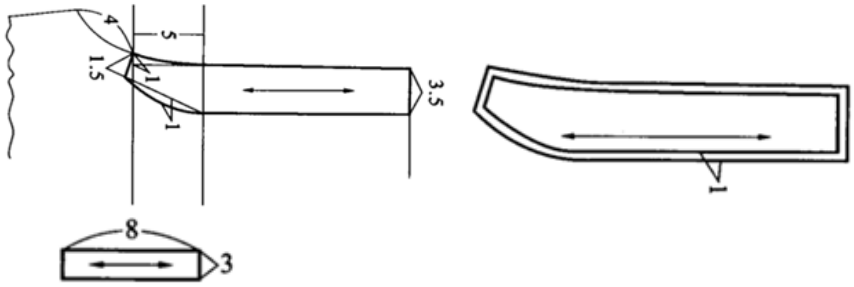
4**) Draw parts of the trousers**

(1) Waistband: length=W/2+1.5cm (for right fly width), Width=3cm

(2) The left fly, right fly and the belt loop

(3) Pocket, pocket stay





Self-check 5.2

1 clarify about the classification of skirt?(5)

2. How to check finished pattern pieces?

Lap Test 5	Practical demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Develop a complete pattern as per given measurements and diagrams.

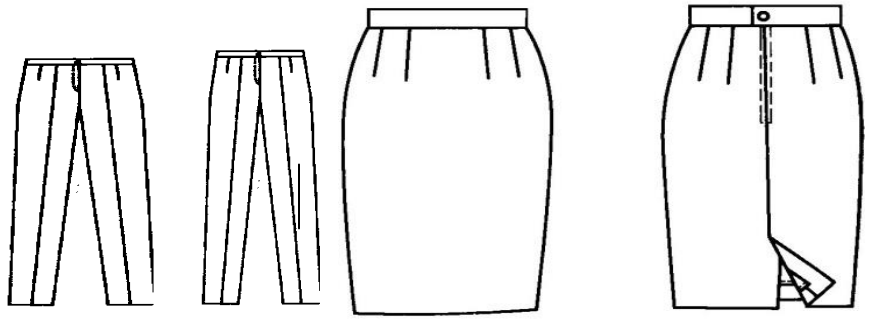
Given Specification

Table 5 measurements of skirt and pant

No.	Description	Body measurement in cm.
1	Waist circumference	74
2	Hip circumference	92
3	Waist to Hip	18
4	Skirt length	54

Given Design

Front View Back View



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9. Armstrong

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