

Chapter - 1: Introduction to Pattern Making

1.1 Introduction

Human form is a compound of complex geometric shapes and presents problems in pattern construction. The accuracy of any pattern making method depends largely on relevant and correct measurements. Learning pattern making by trial and error is like learning to play music by ear. Pattern making can be further divided in two sub headings namely measuring the body or dress-form correctly & accurately and knowledge of techniques with which these measurements are applied to achieve a good pattern.

Pattern making is a complex task as no two human beings are identical. Pattern makers have generally tried to find an ideal system and not realizing that a system set by one method may not fully satisfy the needs of other human figures. The proportionate systems work on the principles that the whole body length is divided in to eight heads and the girth measurements are in proportion in to each other. Proportionate systems on the other hand seem to offer a ready solution to the problem of unreliable or incorrect measurements.

Pattern making systems are largely dependent and are influenced by accepted style of their period. Seam placement and suppression are an integral part of a draft that did not allow for change in the design without disturbing the garment balance.

1.2 Understanding of Body & Its Measurements

Before proceeding to take measurements it's important to understand the body and different parts of body. It is important to identify various hallmarks in the body.

Let us start with Head - the measurement of head is taken only if you were making a headgear like caps or hats. You measure the head lengthwise from the forehead to back of the neck and for width you measure from above the ear from one side to the other from back of the head.

Neck: the measurement of neck is taken for making collars and necklines. You measure the round neck from the center front to center front around the neck by keeping the measuring tape perpendicular to the neckline without pulls or folds.

Shoulder: the shoulder is measured in two different ways one the length of shoulder is measured by measuring from high shoulder point or neck point to shoulder point at the start of the arm. For traditional pattern making methods cross back is required and it is measured from one shoulder point to the other at the back.

Armhole: the measurement of armhole is taken for making sleeves. You measure the round armhole by passing the measuring tape under the arm pit starting at the shoulder point and ending there itself by ensuring that the measuring tape is without pulls or folds.

Bust: the measurement of bust is taken for making all upper torso garments like shirts, blouses, jackets, kurta, kameez and others. You measure the round bust by passing the



measuring tape over the fullest part of the breast starting at center front and ending there itself, also by ensuring that the measuring tape is without pulls or folds and your two fingers are inside the tape.

Apex or bust point is the highest point or the tip of the bust, the measurement of apex is taken for making darts in the bodice. The length wise measurement is taken from high shoulder point at the neck to apex and width of the apex is measured by measuring the distance between two apex points.

Center Front: is a line that divides the front body into two equal halves. The measurement of center front is taken for establishing neck depth. The measurement is taken from the pit of the neck at the center front to the waistline ensuring that the measuring tape is without pulls or folds.

Center Back: is a line that divides the back body into two equal halves. The measurement of center back is taken for establishing neck depth. The measurement is taken from the pit of the neck at the center back to the waistline ensuring that the measuring tape is without pulls or folds.

Side Seam: is an imaginary line that divides the body into two parts on the side i.e. front and back. The measurement of side seam is taken for establishing armhole depth. The measurement is taken from under the armpit to the waistline ensuring that the measuring tape is without pulls or folds.

Waist: the measurement of waist is taken for making all garments that cover the waist like shirts, blouses, jackets, kurta, kameez, skirts, trousers and others. Waist is the narrowest part of the body natural waist can be established by taking a piece of string making a loop and letting it fall the smallest part of the torso. You measure the round waist by passing the measuring tape over the curve of the waist starting at center front and ending there itself, also by ensuring that the measuring tape is without pulls or folds and your two fingers are inside the tape for breathing ease. It is also imperative that the person is standing in natural posture without pulling the stomach and breath inside.

Hip: the measurement of hip is taken for making all garments that cover the hip like shirts, jackets, kurta, kameez, skirts, trousers and others. You measure the round hip by passing the measuring tape over the fullest part of the hip starting at center front and ending there itself, also by ensuring that the measuring tape is without pulls or folds and your two fingers are inside the tape.

Princess Line: is an imaginary line that passes through the apex from shoulder to the entire length of the dress from. It takes the suppression in to give a well fitted look.

Sleeve Length: the measurement of sleeve is taken for making sleeves. You measure from top the arm at shoulder point by measuring the length till the wrist or desired sleeve length, ensuring that the measuring tape is without pulls or folds.

Bicep: the measurement of bicep is taken for making sleeves. You measure the round the round arm at the fullest point of upper arm by passing the measuring tape under the arm hole ensuring that the measuring tape is without pulls or folds.

Elbow: the measurement of elbow is taken for making sleeves. You measure the round bent elbow by passing the measuring tape around the elbow ensuring that the measuring tape is without pulls or folds.

Wrist: the measurement of wrist is taken for making sleeves. You measure the round wrist by passing the measuring tape around the wrist ensuring that the measuring tape is without pulls or folds.

Thigh: the measurement of thigh is taken for making trousers, churidar payjama etc. You measure the round thigh by passing the measuring tape around the fullest part of the thigh ensuring that the measuring tape is without pulls or folds.

Knee: the measurement of knee is taken for making trousers, churidar payjama etc. You measure the round knee by passing the measuring tape around the fullest part of the bent knee ensuring that the measuring tape is without pulls or folds.

Ankle: the measurement of ankle is taken for making trousers, churidar payjama etc. You measure the round ankle by passing the measuring tape around the fullest part of the ankle covering the heel of the foot and ensuring that the measuring tape is without pulls or folds.

1.3 Methods of Measuring Body and Dress Form

Measuring the human body or the dress form is the first step in development of garments to fit the body well. To take measurements precisely and accurately is the first step in learning to make patterns. Care should be taken to take accurate measurements in order to achieve a good fit. It is extremely important to understand the dress form before starting to take dress form measurements. One should carefully observe the shape of the body, where it is hollow, how shoulder slopes etc. It is equally important for the pattern maker to understand various body functions and how and where each limb moves while performing various body movements or daily tasks.

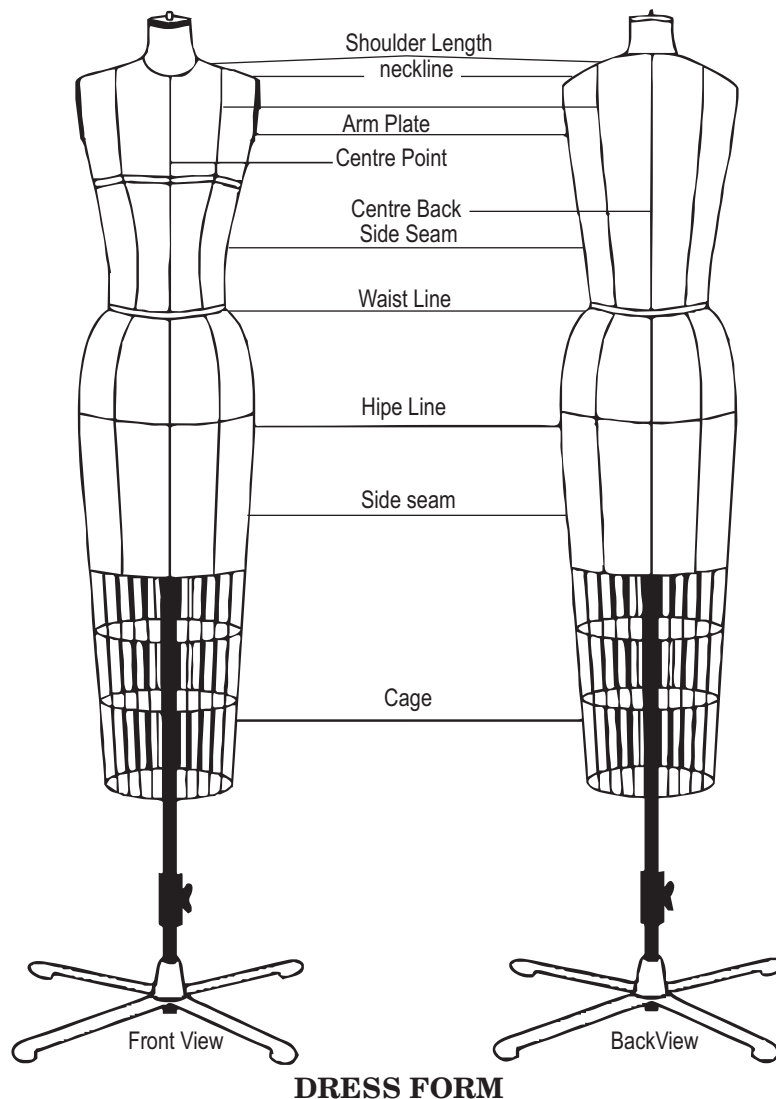
1.3.1 Method of Measuring a Dress Form

Identify Various Body Parts: Dress forms come in various sizes, shapes, figures, colours, lengths etc. from a number of companies in standard body measurements in different materials. They are available ready made according to standard measurements of a country and can be customized according to the customer profile or target market of the company. A dress form with Size 8 marked on it and made by a US based company is made as per size 8 of US standard size. However, a company dealing with maternity wear will require a customized dress form.

The first step in order to learn to measure a dress form is to know the form. The figure given below identifies the various body parts on the front and back of a standard dress form.



Dress form with all the horizontal levels

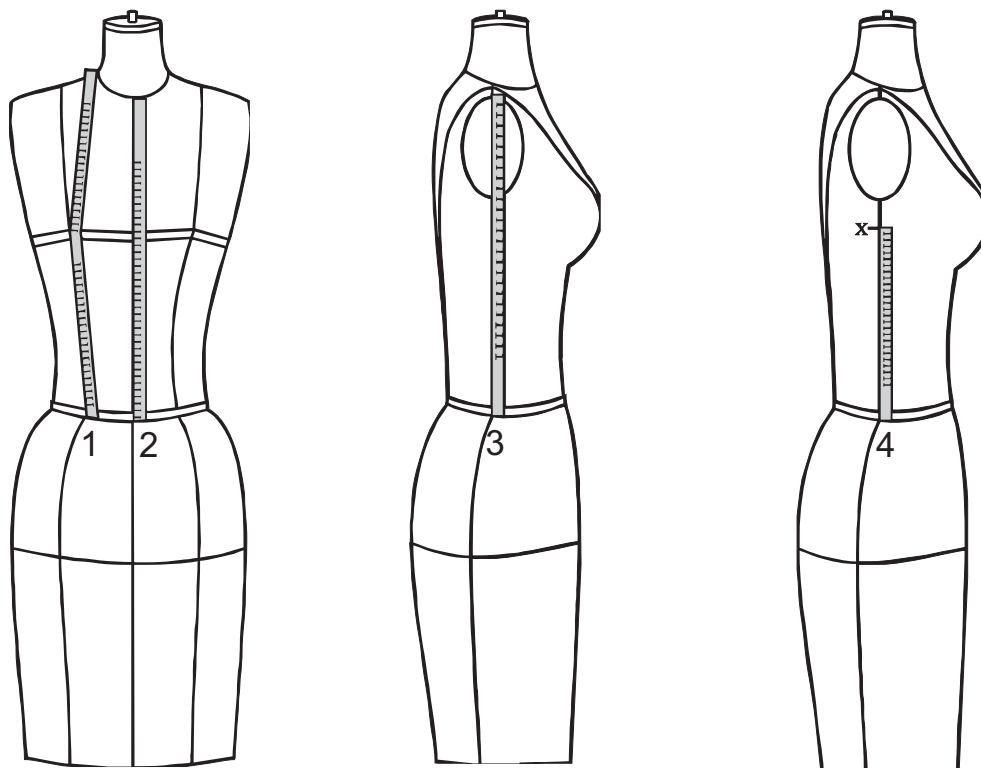


All the measurements are according to the number given for e.g. 1. - Front length corresponds to the 1 identified on the figure of dress form.

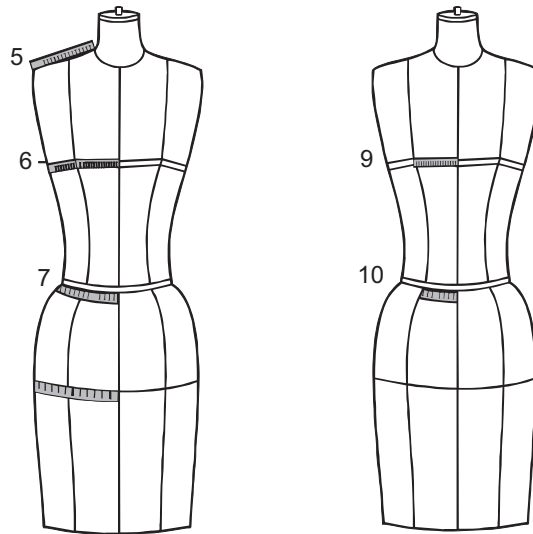
1.3.2 Measurements

1. **Front Length:** measure from high shoulder neck intersection to waistline over the bust, take care to measure with a hand under the bust in order to measure the underside of the bust.
2. **Centre Front Length:** measure from neck intersection at centre front to waist at centre front intersection without any pulls.
3. **Shoulder to Waistline:** measure from the shoulder tip to side seam waistline intersection (over the sides add 3/4th of an Inch as ease for the armhole).

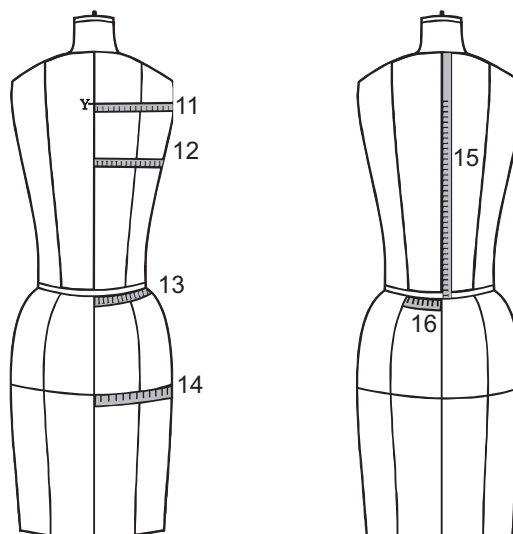
4. **Underarm Seam:** mark a point X 1" below armhole plate. From the point X measure down to waistline intersection at the side seam.

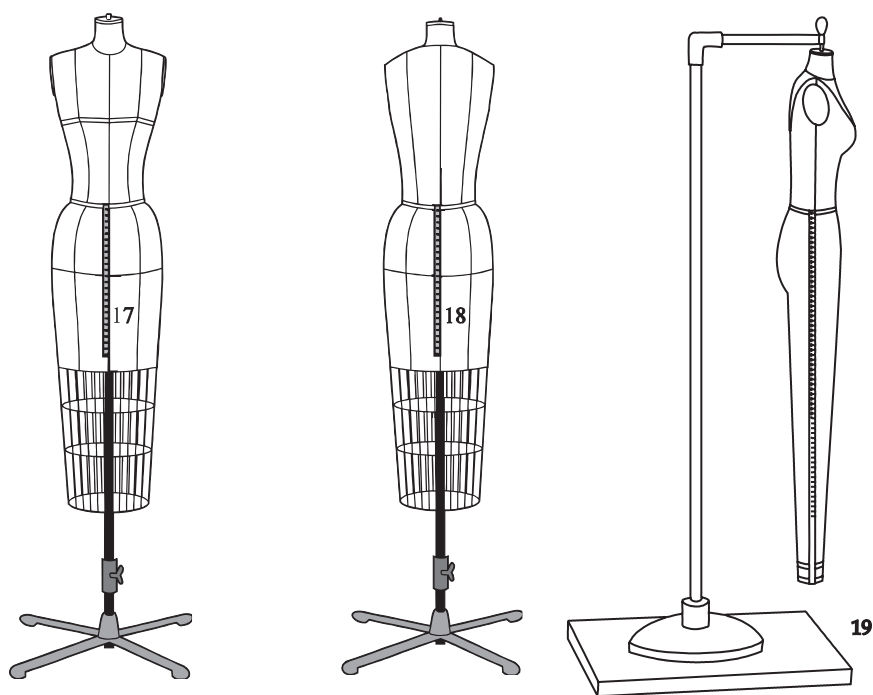


5. **Shoulder Length:** measure from shoulder neck intersection to princess line and then from princess line to the tip of the shoulder.
6. **Width of Bust:** measure from centre front over the bust to point X on side seam (to just over the seam).
7. **Front Waistline:** measure from centre front waistline intersection to side seam waist line intersection.
8. **Front Hipline:** Mark a point with the help of a pin at on centre front which is 7" below the waistline. Using this point measure from floor up, mark this measurement horizontally on the dress form starting from Center front and continue to centre back (keeping it uniform throughout). Put a style tape for reference and label it as hip line. On this line, measure starting from the centre front intersection to side seam intersection (to just over the seam).
9. **Apex Measurement:** measure from the centre front to the high bust point keeping the tape parallel to the floor.
10. **Centre Front to Princess Line:** At waistline measure from centre front intersection to princess line intersection.

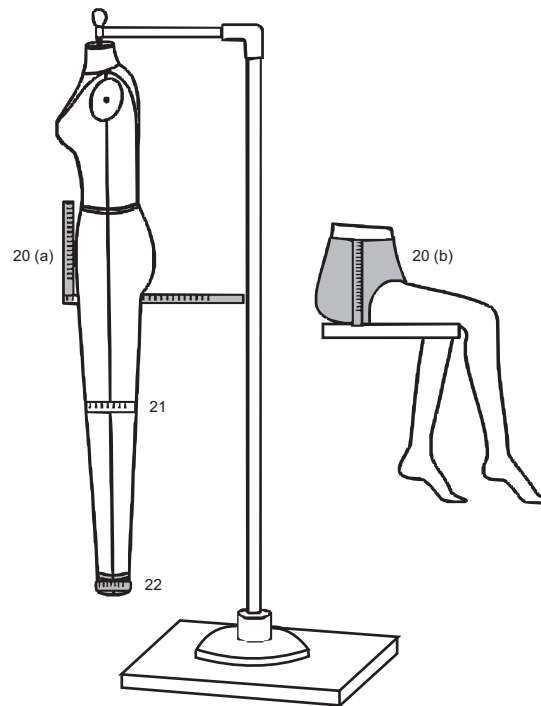


11. **Shoulder Blade:** Mark a point Y on centre back so that, from centre back neck intersection to point Y is $\frac{1}{4}$ th of centre back length. Shoulder blade is measured from point Y to armhole ridge keeping the tape parallel to the floor.
12. **Width of Back:** measure from point X on side seam to centre back keeping the tape parallel to the floor.
13. **Back Waistline:** measure from centre back waistline intersection to side seam waistline intersection.
14. **Back Hip line:** measure from centre back intersection to side seam intersection on hip line marked earlier.
15. **Centre Back Length:** measure from neck intersection at centre back to waist at centre front intersection without any pulls as for center front.
16. **Centre Back to Princess Line:** At waistline measure from centre back intersection to princess line intersection.

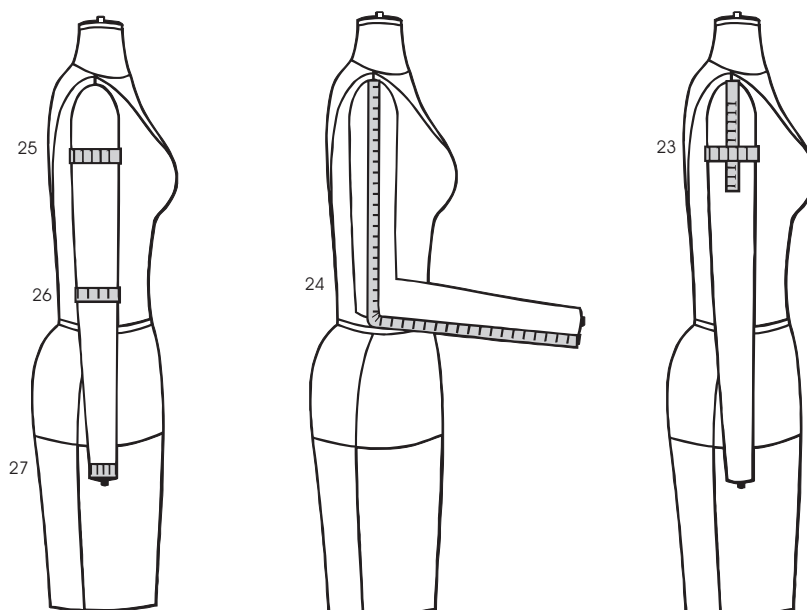




17. **Centre Front Length for Lower Garment:** measure from centre front waistline intersection at centre front down to the desired length ensuring that the tape measure has no pulls or folds.
18. **Centre Back Length for Lower Garment:** measure from centre back waistline intersection at centre back down to the desired length ensuring that the tape measure has no pulls or folds as for centre front.
19. **Side Seam Length:** measure from waistline intersection at side seam over the hip to ankle ensuring that the tape measure has no pulls or folds.
20. **Crotch Depth**
 - (a) **On Dress Form:** Place an L-square between legs of form and note the measurement at waistline. This measurement includes $1\frac{1}{4}$ " ease as the L-square is generally $1\frac{1}{4}$ " wide.
 - (b) **On Body:** make the customer sit on a flat surface ensuring that back of the client is absolutely straight. In this seated position, measure from the waistline intersection at side seam over the figure to the seat of the chair. (Ease needs to be added here.)
21. **Knee Circumference:** take the round measurement over the fullest part of the knee over the bone. On the body, it should be measured over a bent knee for a complete measurement.
22. **Ankle Circumference:** take the round measurement over the ankle bone. On the body, it should be measured over ankle and heel for a complete measurement.



23. **Cap Height:** Tie a tape around the biceps of arm close to the armpit. Cap height is to be measured from shoulder intersection to the top of the tape.
24. **Sleeve Length:** measure from shoulder intersection over the bent elbow to the wrist.
25. **Bicep Circumference:** take the round measurement over the fullest part of the arm.
26. **Elbow Circumference:** take the round measurement over the elbow. On the body, it should be measured over a bent elbow for a complete measurement.
27. **Wrist Circumference:** take the round measurement over the wrist bone.



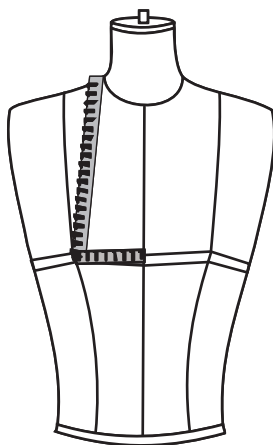
1.3.3 Things to Keep in Mind While Taking Measurement on the Body.

- ♦ Round measurement /girth measurement are to be taken by measuring over the widest point of the body with two fingers between the body and measuring tape, this will ensure that the body is neither pressed nor squeezed.

Note: Remember the measuring tape should not press into the body otherwise measurement may not be accurate.

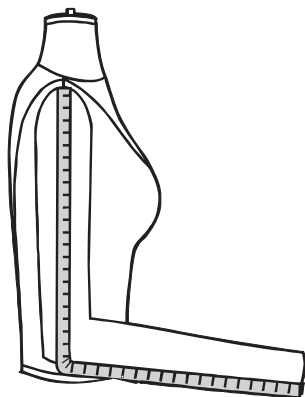
For lengthwise measurement, ensure that the customer is standing in a natural pose.

- ♦ Length wise measurement: While taking length wise measurement a hand should be kept under the bust for ensuring that bust is taken while measuring the length. Otherwise the length of the garment will fall short.
- ♦ Shoulder/cross back measurements are taken from one shoulder bone to the other.
- ♦ Apex is to be measured as shown in the diagram



Apex measurement

- ♦ Sleeve length is taken from the shoulder bone to the length required



Sleeve length

- ♦ For full length of the salwar measure from waist to the floor ensuring that the person is standing straight.

Summary

The chapter covers the following topics:

1. The definition of pattern making, it is a blue print of the garment, Pattern making is an activity by which design is transformed from a drawing stage to an actual physical piece. A pattern maker interprets the designers sketch by drafting it through pattern pieces.
2. The identification of body parts and the method of measuring each of them in context of why and how to measure.
3. The different methods of measuring a human body and dress form.
4. Visual identification of each body part on a dress form and the method of measuring it.
5. Things to be kept in mind while measuring crucial body areas like bust, full length.

Exercise

1. Collect pictures of womens wear garments. Create a folder or style file and identify the kind of darts used in the garment. This will become a guide for you on various styles
2. Measure a dress form and body note the difference in the two measuring methods you need to use.
3. Fill in the blanks
 - a. The pattern can be cut by _____ methods and they are _____ and _____.
 - b. Pattern is a _____ of a garment.
 - c. The book written by Philip _____ is called _____.
 - d. The dart is a _____ wedge that gives _____ to the flat piece of _____.
 - e. _____ method is the oldest pattern making method and is regarded as a _____.
 - f. Center front is the line that divides the front _____ in two _____.
 - g. Ankle should be measured around the _____.
 - h. Correct sleeve length is taken by measuring over a _____.
 - i. Bodice length is measured by measuring from neck _____ to apex and waist by placing a _____.
 - j. Crotch depth on a body is measured by making the _____ sit on a _____ surface and it is measured from _____ to _____.
 - k. Apex is measured by taking the measurement from shoulder _____ to the apex point.
 - l. Distance between the apex and center _____ is measured by _____ the distance between _____ points in _____.
 - m. Shoulder blade level is measured at _____ of _____.