# COMPUTER AIDED PATTERN DESIGNING
# PRACTICAL RECORD

**BY**

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**FOR**

**CITS - DRESS MAKING, SEWING TECHNOLOGY**
**& FASHION DESIGN AND TECHNOLOGY.**

**EXPT. NO.1**

**Date:**

# IDENTIFYING THE PATTERN MAKING TOOLS.

1. Double click the icon of the pattern making software.
2. Move the mouse pointer at the top of each tool in the tool bar.
3. Identify the name of the tool and it's icon.
4. Write the name of each tool in the "Name of the tool" column of the following identification chart .
5. Draw the symbol of each icon of the particular tool in the "symbol" column.

## IDENTIFICATION CHART FOR PATTERN MAKING TOOLS.

| Sl. No. | Name of the Tool | Symbol | Sl. No. | Name of the Tool | Symbol |
|---------|------------------|--------|---------|------------------|--------|
| 1. | | | 16. | | |
| 2. | | | 17. | | |
| 3. | | | 18. | | |
| 4. | | | 19. | | |
| 5. | | | 20. | | |
| 6. | | | 21. | | |
| 7. | | | 22. | | |
| 8. | | | 23. | | |
| 9. | | | 24. | | |
| 10. | | | 25. | | |
| 11. | | | 26. | | |
| 12. | | | 27. | | |
| 13. | | | 28. | | |
| 14. | | | 29. | | |
| 15. | | | 30. | | |

| Sl. No. | Name of the Tool | Symbol | Sl. No. | Name of the Tool | Symbol |
|---|---|---|---|---|---|
| 31. | | | 56. | | |
| 32. | | | 57. | | |
| 33. | | | 58. | | |
| 34. | | | 59. | | |
| 35. | | | 60. | | |
| 36. | | | 61. | | |
| 37. | | | 62. | | |
| 38. | | | 63. | | |
| 39. | | | 64. | | |
| 40. | | | 65. | | |
| 41. | | | 66. | | |
| 42. | | | 67. | | |
| 43. | | | 68. | | |
| 44. | | | 69. | | |
| 45. | | | 70. | | |
| 46. | | | 71. | | |
| 47. | | | 72. | | |
| 48. | | | 73. | | |
| 49. | | | 74. | | |
| 50. | | | 75. | | |
| 51. | | | 76. | | |
| 52. | | | 77. | | |
| 53. | | | 78. | | |
| 54. | | | 79. | | |
| 55. | | | 80. | | |

| Sl. No. | Name of the Tool | Symbol | Sl. No. | Name of the Tool | Symbol |
|---|---|---|---|---|---|
| 81. | | | 106. | | |
| 82. | | | 107. | | |
| 83. | | | 108. | | |
| 84. | | | 109. | | |
| 85. | | | 110. | | |
| 86. | | | 111. | | |
| 87. | | | 112. | | |
| 88. | | | 113. | | |
| 89. | | | 114. | | |
| 90. | | | 115. | | |
| 91. | | | 116. | | |
| 92. | | | 117. | | |
| 93. | | | 118. | | |
| 94. | | | 119. | | |
| 95. | | | 120. | | |
| 96. | | | 121. | | |
| 97. | | | 122. | | |
| 98. | | | 123. | | |
| 99. | | | 124. | | |
| 100. | | | 125. | | |
| 101. | | | 126. | | |
| 102. | | | 127. | | |
| 103. | | | 128. | | |
| 104. | | | 129. | | |
| 105. | | | 130. | | |

| Sl. No. | Name of the Tool | Symbol | Sl. No. | Name of the Tool | Symbol |
|---------|------------------|--------|---------|------------------|--------|
| 131. | | | 156. | | |
| 132. | | | 157. | | |
| 133. | | | 158. | | |
| 134. | | | 159. | | |
| 135. | | | 160. | | |
| 136. | | | 161. | | |
| 137. | | | 162. | | |
| 138. | | | 163. | | |
| 139. | | | 164. | | |
| 140. | | | 165. | | |
| 141. | | | 166. | | |
| 142. | | | 167. | | |
| 143. | | | 168. | | |
| 144. | | | 169. | | |
| 145. | | | 170. | | |
| 146. | | | 171. | | |
| 147. | | | 172. | | |
| 148. | | | 173. | | |
| 149. | | | 174. | | |
| 150. | | | 175. | | |
| 151. | | | 176. | | |
| 152. | | | 177. | | |
| 153. | | | 178. | | |
| 154. | | | 179. | | |
| 155. | | | 180. | | |

**EXPT. NO.2**

**Date:**

## CREATING PATTERN FOR A BODICE BLOCK FRONT.

1.  Collect the required measurements for a Bodice Block Front.

    | | | |
    |---|---|---|
    | Waist length | = | 41 Cms. |
    | Bust | = | 88 Cms. + 6 Cms. for Ease |
    | Waist | = | 70 Cms. + 4 Cms. for Ease |
    | Shoulder | = | 34 Cms. |
    | Armhole Depth | = | 22 Cms. |
    | Neck | = | 38 Cms.+ 2 Cms. for Ease |

2.  Double click the icon of the pattern making software.

3.  Select options in the menu bar. Select "Cms." as unit.

4.  Go to File and click new and Give the name of the pattern.

5.  Create a Rectangle of 41 cms,. length (for Waist Length) and 23.5 Cms. (1/4 Bust + 1.5 Cms. for ease) width.

6.  Name the corner points of the rectangle from 1 to 4 as shown in the figure.
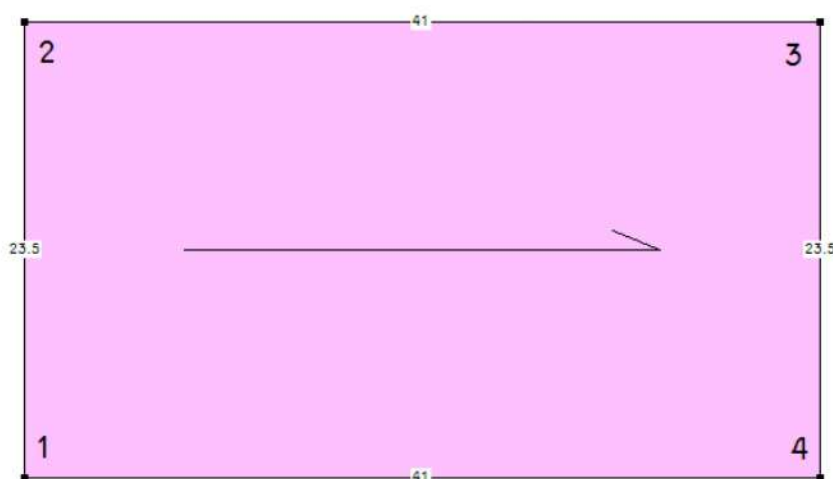


7.  Select point on tool and mark the points 5,6,7 & 8 as follows.

    1-5 = 7.5 Cms., (one fifth of neck with ease measurement minus 0.5 Cm.).
    1-6 = 8 Cms (one fifth of neck with ease measurement).
    1-7 = 17.5 Cms.(Half Shoulder+0.5 cm for ease)
    2-8 = 22 Cms.,Arm Hole depth.
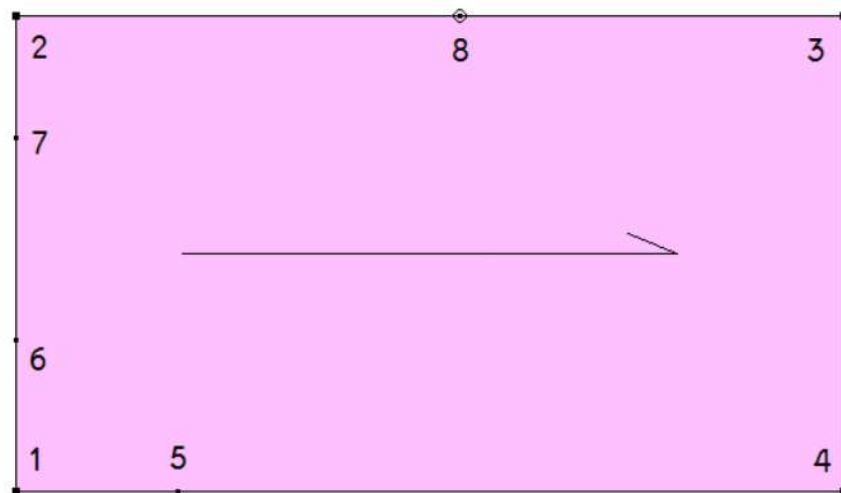
8. Pick the selection tools and click the points 1 & 2 and press del button.
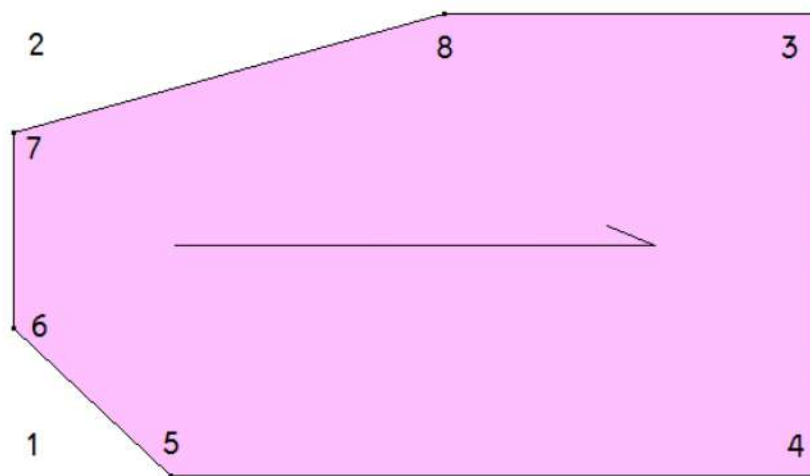


9. Use move point tool and move the point 7 straight towards bottom portion with a distance of 5 Cms. for shoulder slope.
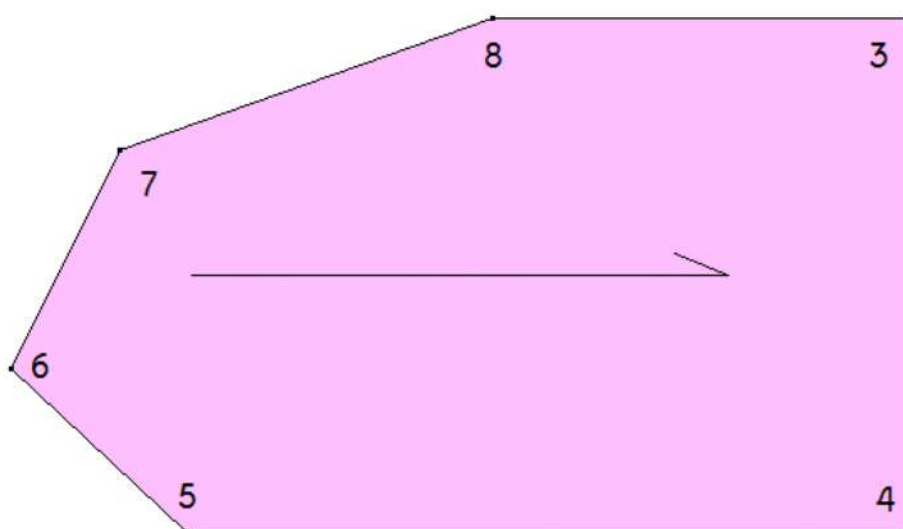
10. Mark points 9 & 10 on the lines 5-6 & 7-8 respectively. Give the point type as "curve" in the dialog box.
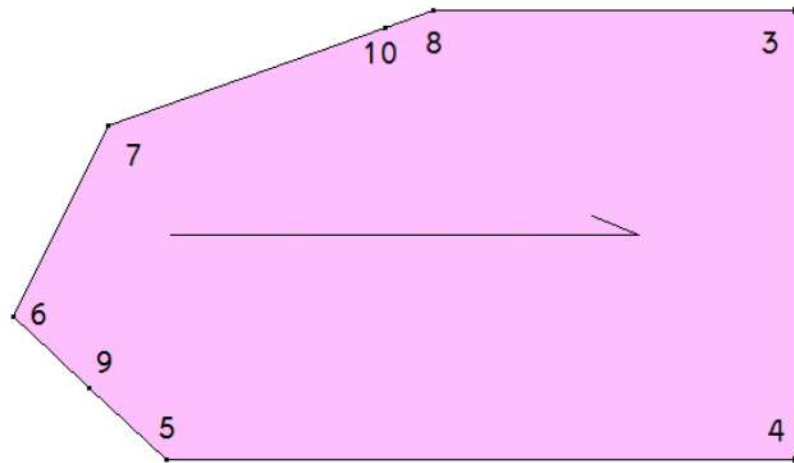
11. Move the points 9 & 10 with the help of move point tool and make smooth neck and armhole curves.
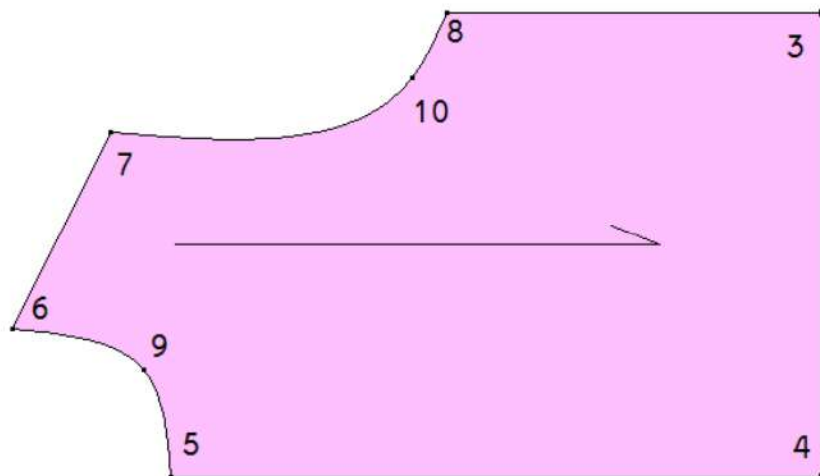
12. Mark point 11 from 4 with a distance of 13 Cms. for dart placement.
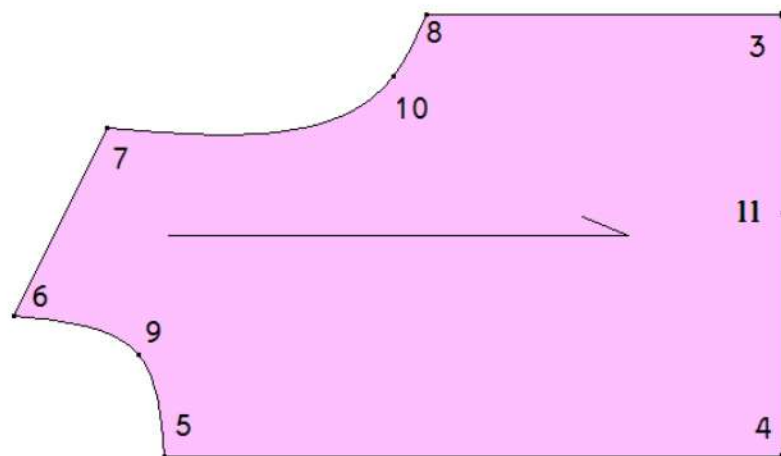
13. Move the point 11 straightly towards bottom side with the distance of 1 Cm.
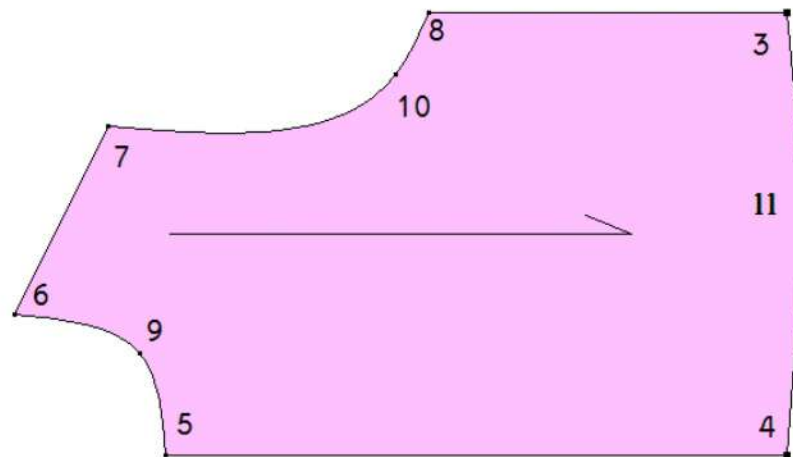
14. Move the point 3 towards point 8 straight with a distance of 3 cms., with the help of the move point tool.
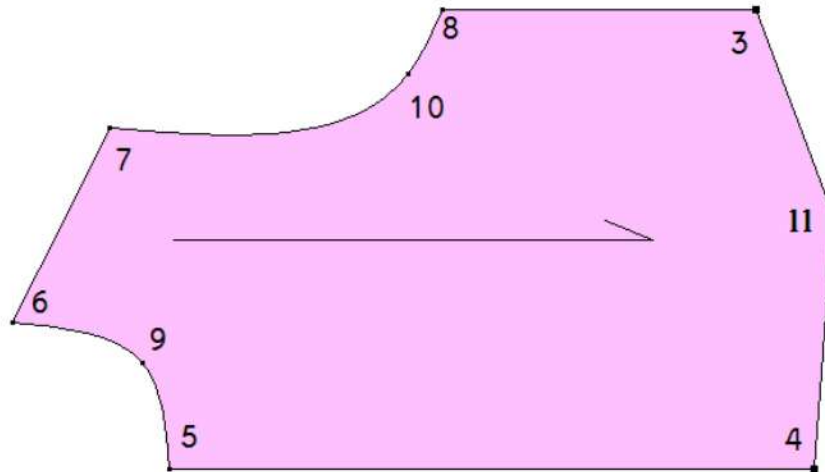
15. Move the point 3 sideways straight with the a distance of 2 cms., with the help of the move point tool. Check the measurement of 3-11 plus 11-4 using measuring tool. It should be equal to 24.5 Cms.(1/4 waist + 1 cm for ease + 6 cms. for dart). Otherwise, adjust the point 3 with the help of move point tool until getting the required dimension.
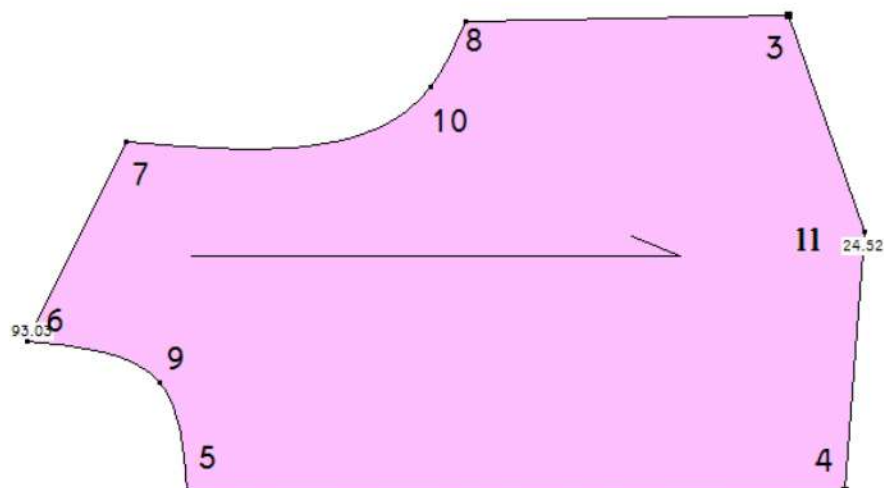
16. Mark points 12 & 13 for dart intake each having 3 Cms., distance from point 11.
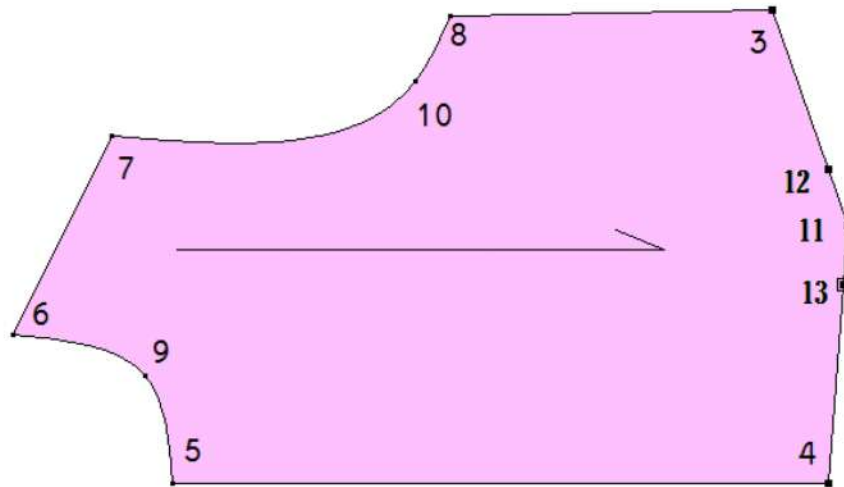


17. Select dart tool. Pick first point 14 and second point 15. Enter the dart length as 15 Cms. in the dialog box.
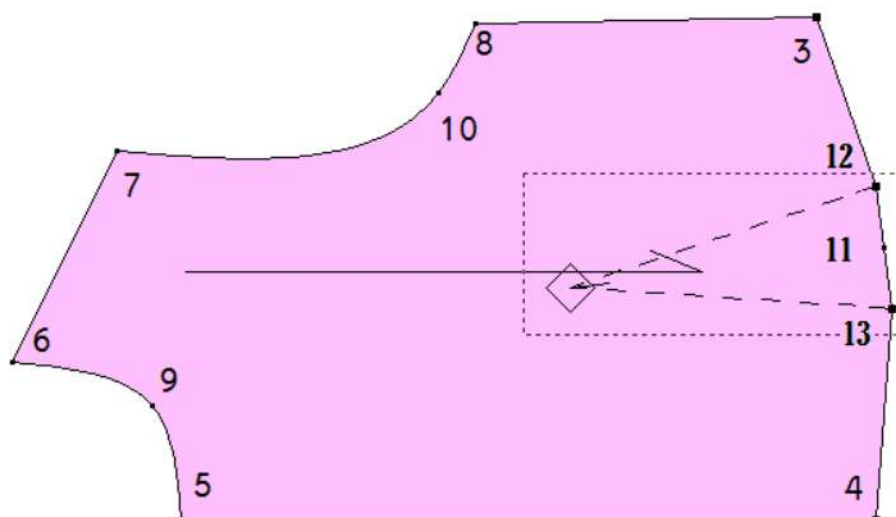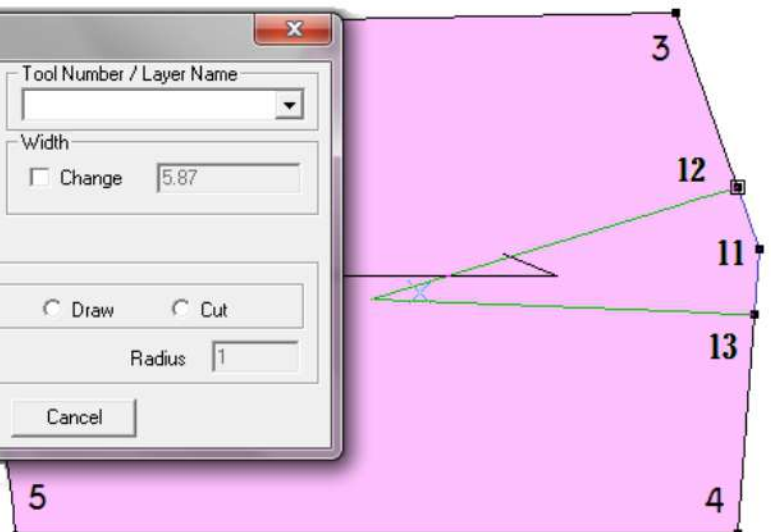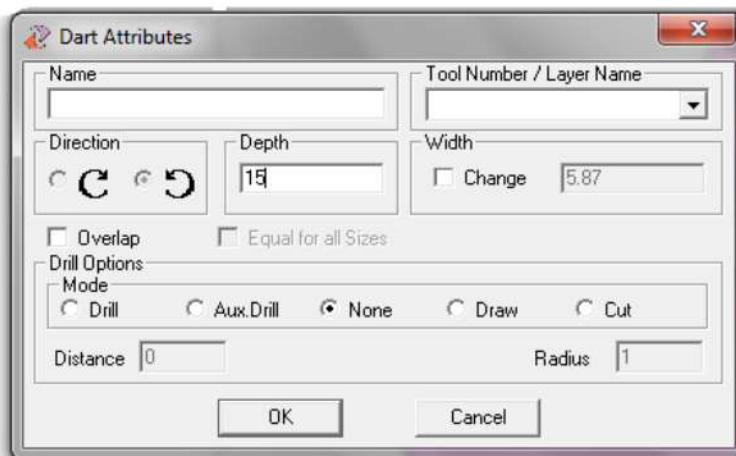
18. Mark curve points 14 & 15 on the lines 3-12 & 13-4 respectively.
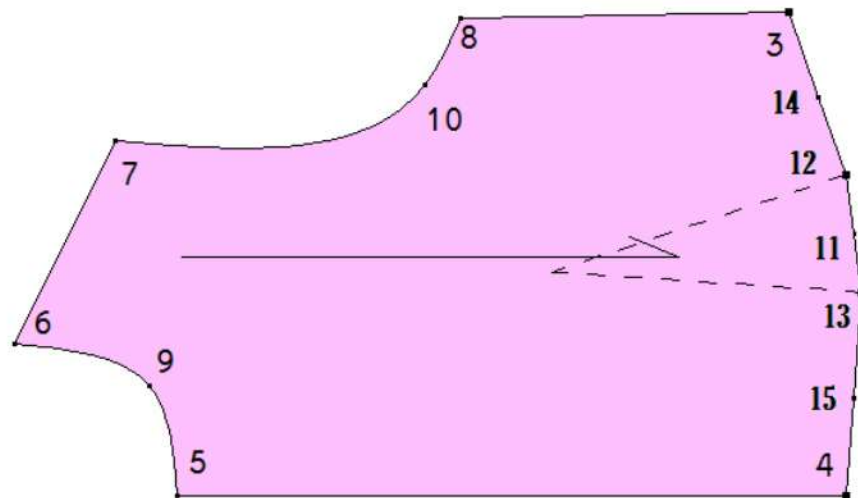
19. Modify the lines 3-12 & 13-4 as smooth curves with the help of move point tool.
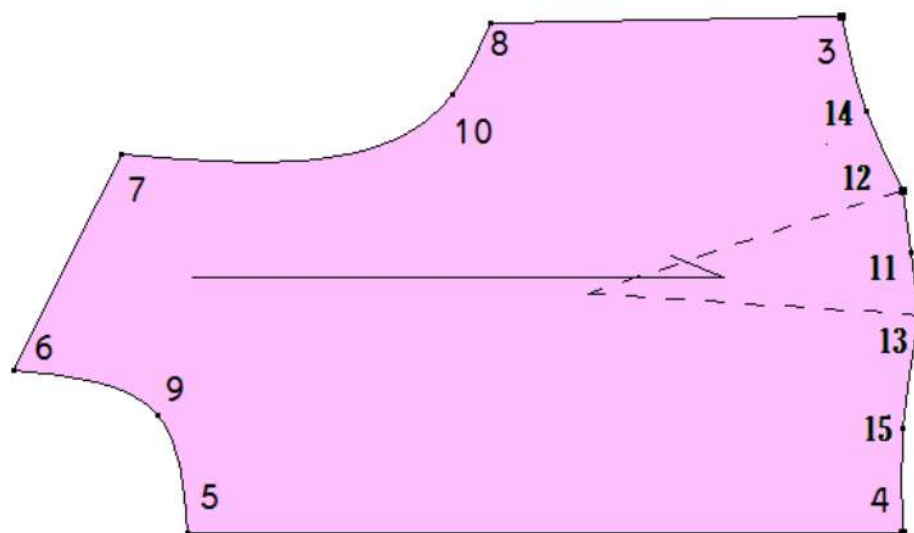
20. Select notch tool place the notches at the armhole, enter the pattern particulars using text tool & save the file in the proper folder.
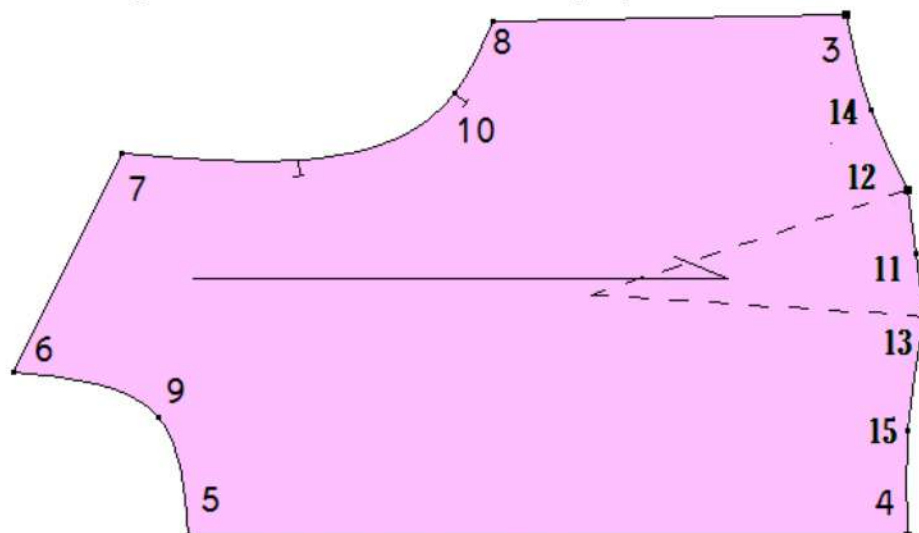
**EXPT. NO.3**

**Date:**

# PRACTICING DART TOOLS.

## A. Open a Dart:

1. Open the Bodice Block Front pattern that saved in the file menu of pattern making software.

2. Create a point 'P' at the mid level of the shoulder.

> **Note**: select the point where the fullness starts (the point where the slashing will begin).
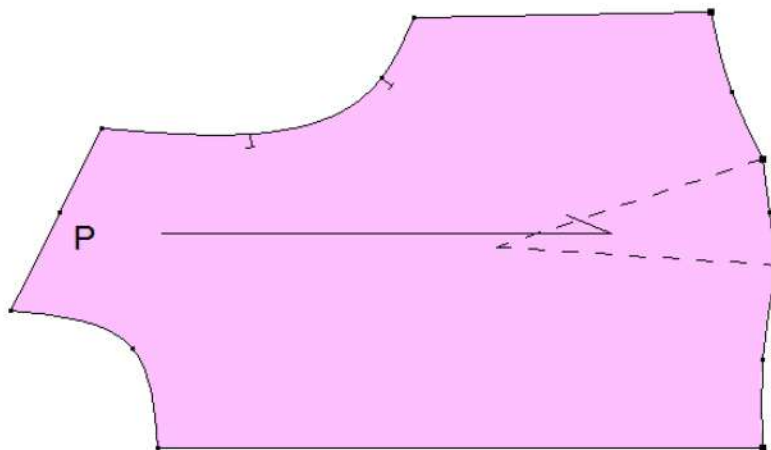


3. Select Open Dart from the Darts menu.

4. Enter the amount of fullness to add in the dialog box. Enter Distance = 1 & Angle = 2.1.
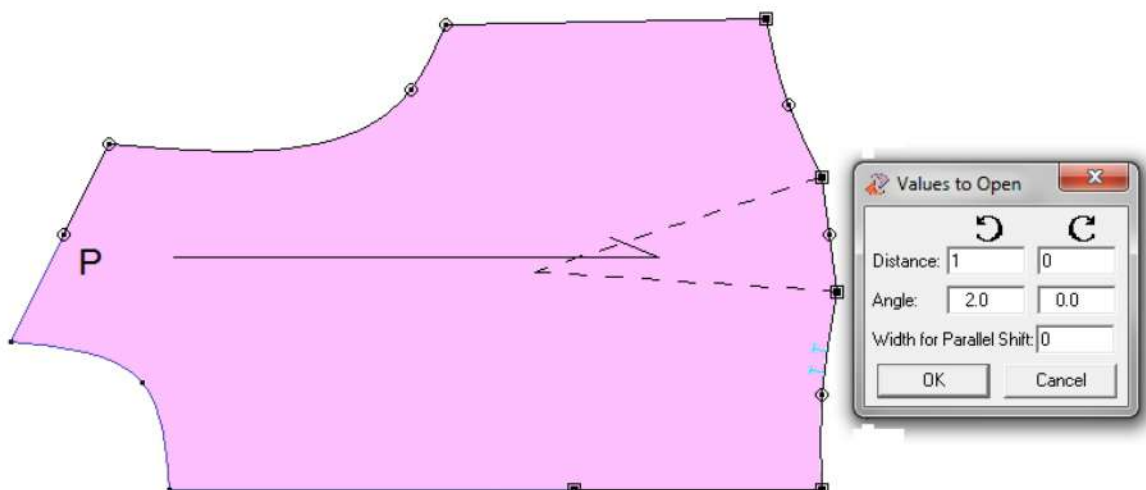
5. Click **OK**.

6. Enter the depth of dart = 10 in the appeared Dart Attributes dialog box.
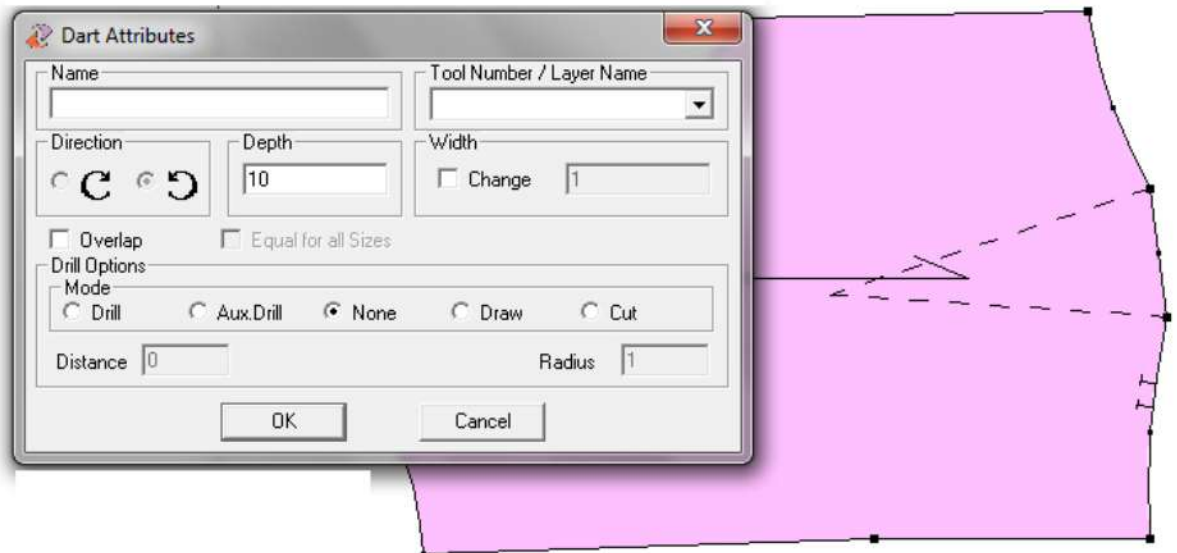


7. Click O.K. to open the dart in the shoulder.
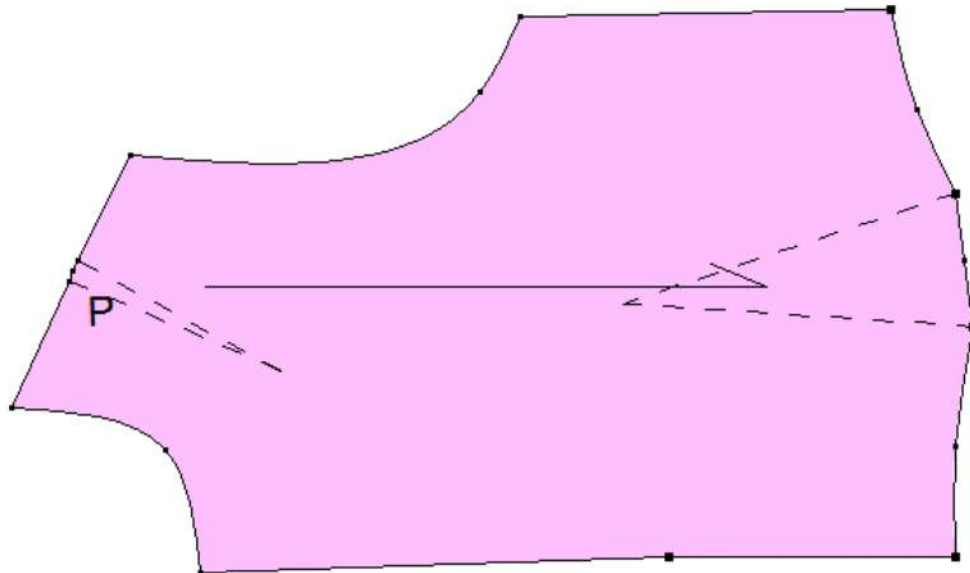


## B. Create multi darts:

1. Open a Bodice Block Front pattern.

2. Click and drag to the points A to B (Neck curve) on the pattern, where the multi darts are to be created.
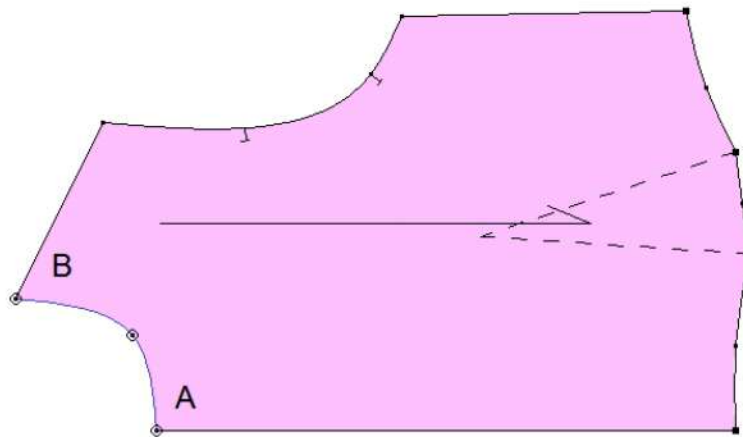
3. Select **Open Multiple Dart** from the **Darts Menu** or **Darts Toolbar.**

4. Enter the desired multiple dart information in the dialog box. Enter no. of Dart = 3, Width of First and last dart = 0.5 Cms., Depth of First and last dart = 4 Cms., and angle = 0.
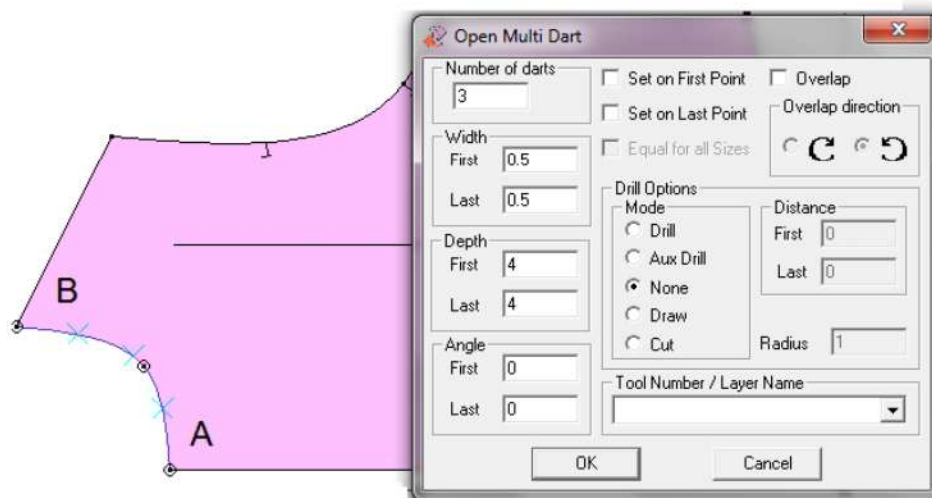


5. Click O.K.
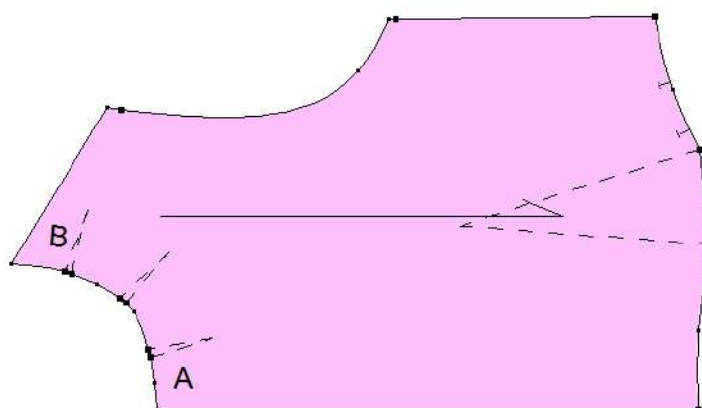
Note: The darts will be created on the first and last selected points. If more than 2 darts are created, they will be equally distributed between the points.

## C. Close a dart:

1. Open the bodice block front file.
2. Select the apex of the dart to close.
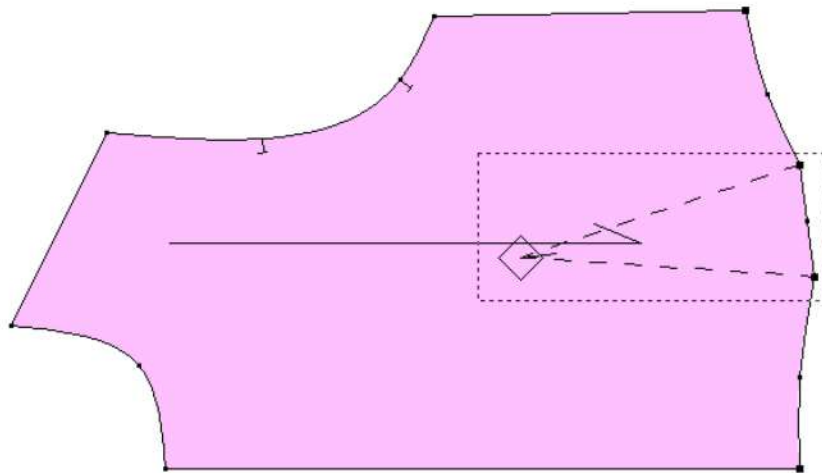


3. Select Close Dart from the **Darts** menu.
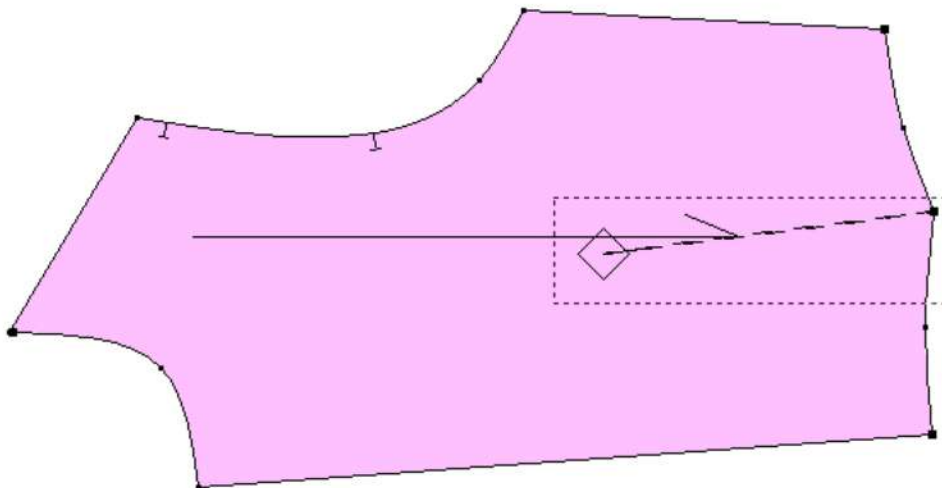


Note: The pattern will be adjusted as if the dart was physically closed.

4. Select the Undo tool or go to Open Dart Command to reopen the dart..

## D. Remove a dart:

1. Open a the bodice block front pattern file and select the desired darts to be removed.
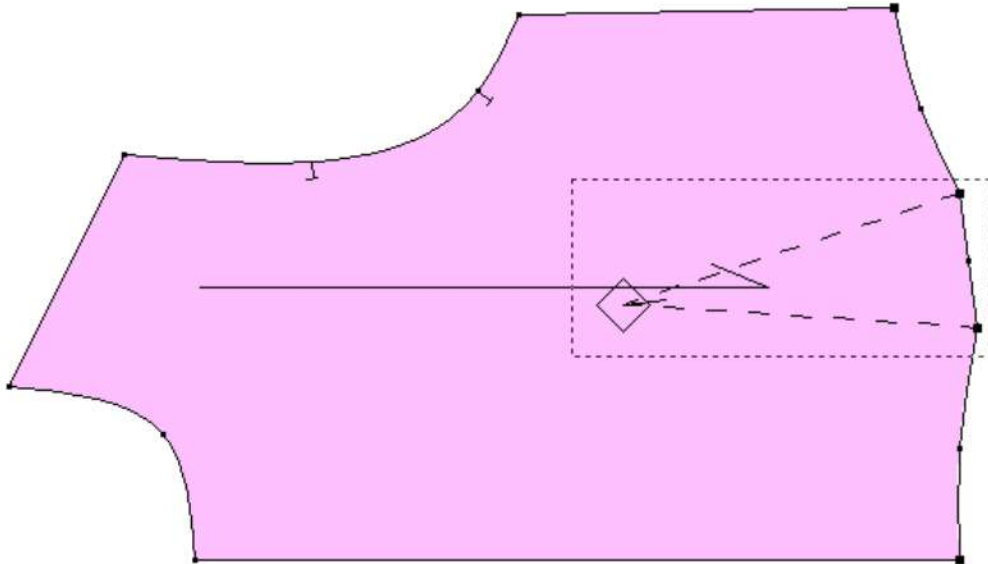
2. Select **Remove Dart** from the Dart menu.
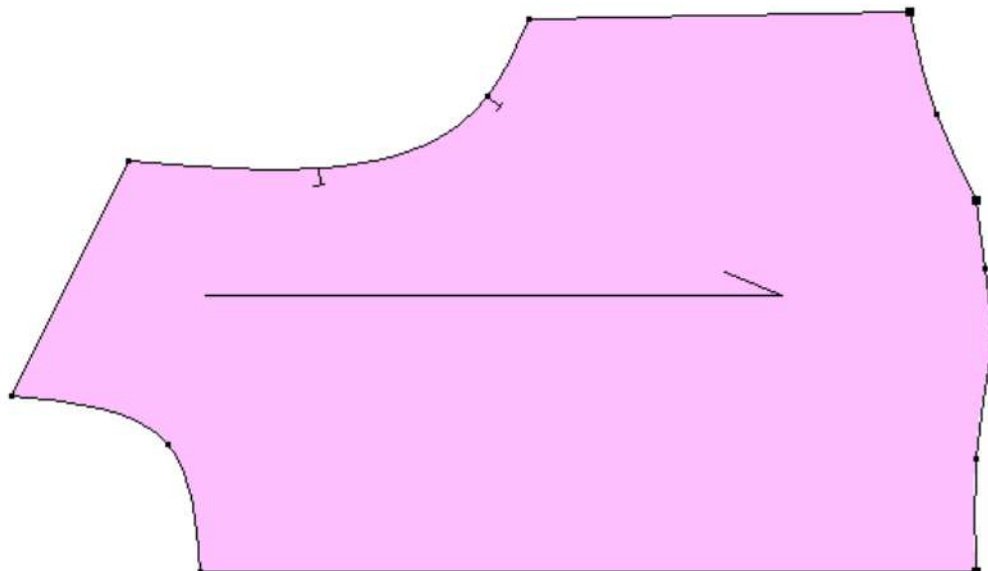
**Note:** The darts will be deflated from the piece. No changes will be made on the contour.

### E. Edit a Dart

1. Open the bodice block front file and select the dart to be edited.
2. Choose Edit Dart from the Darts menu & Fill necessary values in the Dart Attributes box.
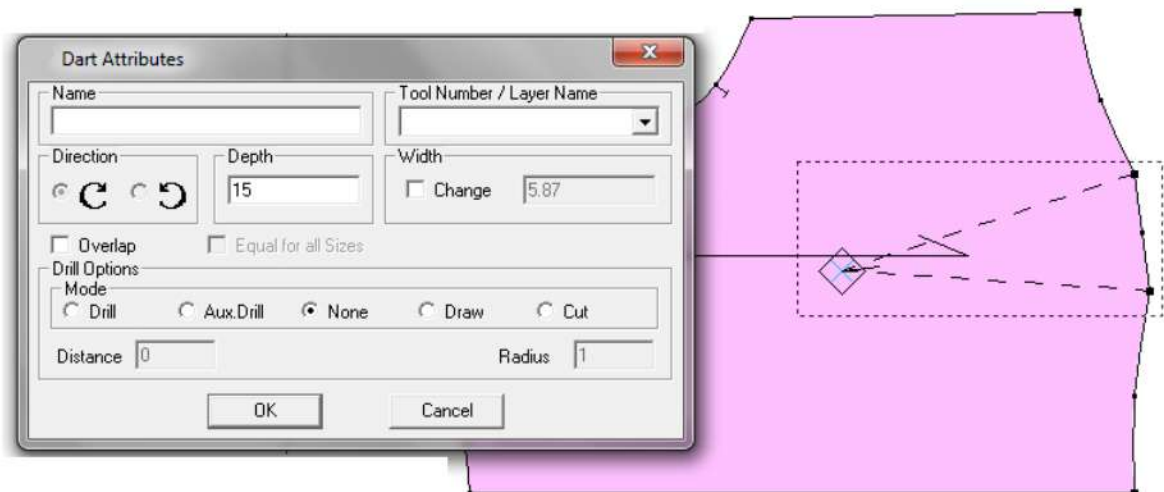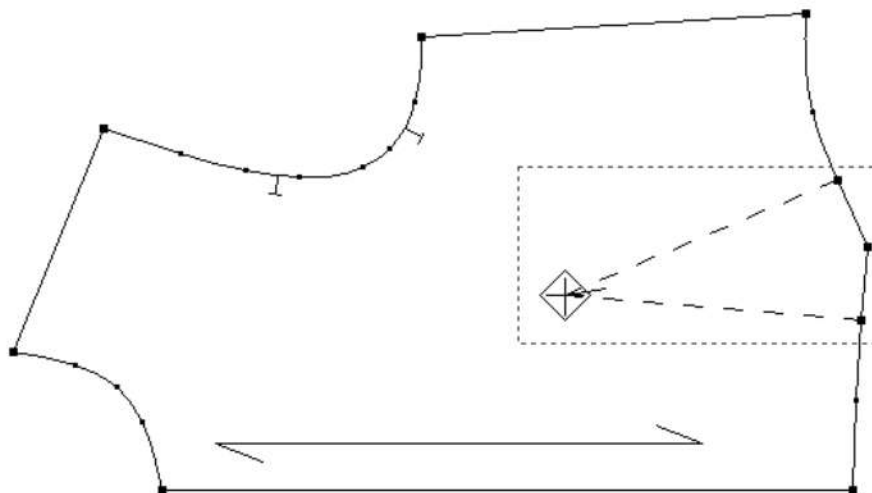


3. Click O.K.

### F. Copy & Paste a Dart

**1.** Open a pattern file and Select the **Dart** to be copied.

**2.** Choose Copy dart from the **Darts** menu.

**3.** Open the layout where the object is going to be pasted.

**4.** Choose **Paste Dart** from the **Dart menu** and place it in the working area as required. Find the selected objects is placed into the file and displayed in the working area.

**EXPT. NO.4**

**Date:**

# MANIPULATING DART.

1. Open the Bodice Block Front file.
2. Click on its apex to select the dart.



3. Select Rotate Dart to Point from the Dart menu. So that, the cursor becomes the dart tool and attach to the dart apex.
4. Drag the cursor (dart tool) to the new location along the perimeter of the pattern piece where the dart is to be moved. Click on the point.
5. Select a point on the piece to pivot around the dart apex.
6. Pivot to the desired location and click the mouse.
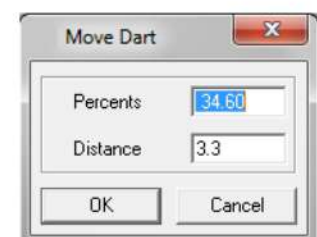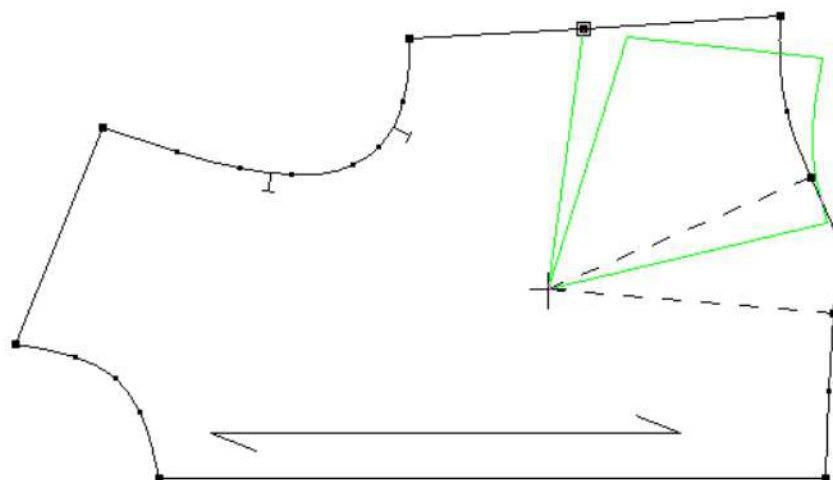
7. Note a Move Dart dialog box will appear listing the percentage and distance of the dart that has moved.

8. Click OK or enter in the desired percentage/distance.
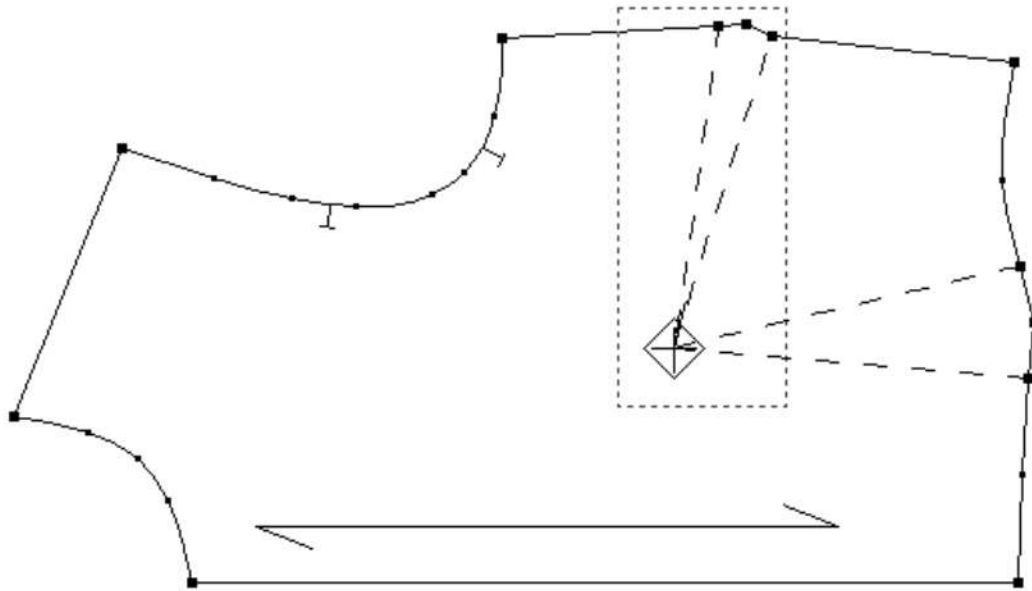
**EXPT. NO.5**
**Date:**

# CREATING PATTERNS FOR A
# BASIC STRAIGHT SKIRT.

## A. Creating Patterns for Basic Straight Skirt Front.

1. Collect the required measurements for a Basic Straight Skirt from the size chart.

| | | |
|---|---|---|
| Skirt length | = | 61 Cms. |
| Hip | = | 96 Cms. + 4 Cms. for Ease |
| Waist | = | 70 Cms. + 4 Cms. for Ease |
| Waist to hip | = | 20 Cms. |

2. Double click the icon the Pattern Making Software.

1. Select options in the menu bar. Select "Cms." as unit.

2. Go to File and click new.

3. Give the name of the pattern.

4. Create a Rectangle of 57 cms,. length (from skirt length minus 4 cms. of Waist Band width ) and 25 Cms. (1/4 Hip + 1 Cm. for ease) width.

5. Name the corner points of the rectangle from 1 to 4 as shown in the figure.
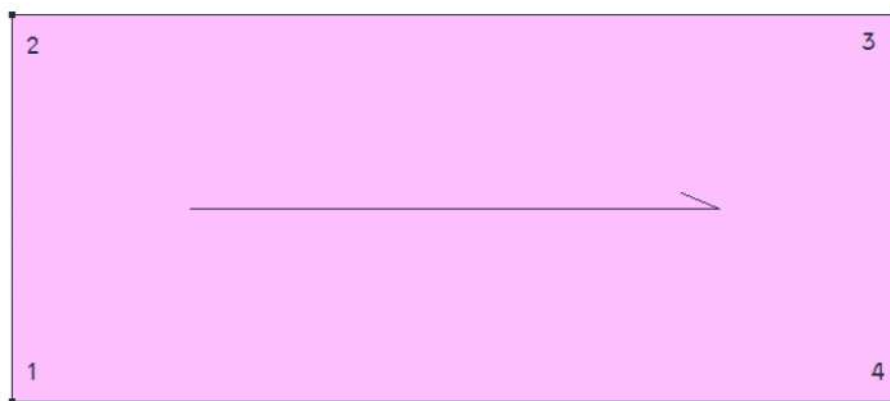


6. Select point on tool and mark the points 5 & 6 as follows.

　　　1-5 = 21 Cms., (one fourth of waist plus 1 cm for ease + 2.5 Cms. for dart).

　　　2-6 = 20 Cms (Waist to hip measurement).

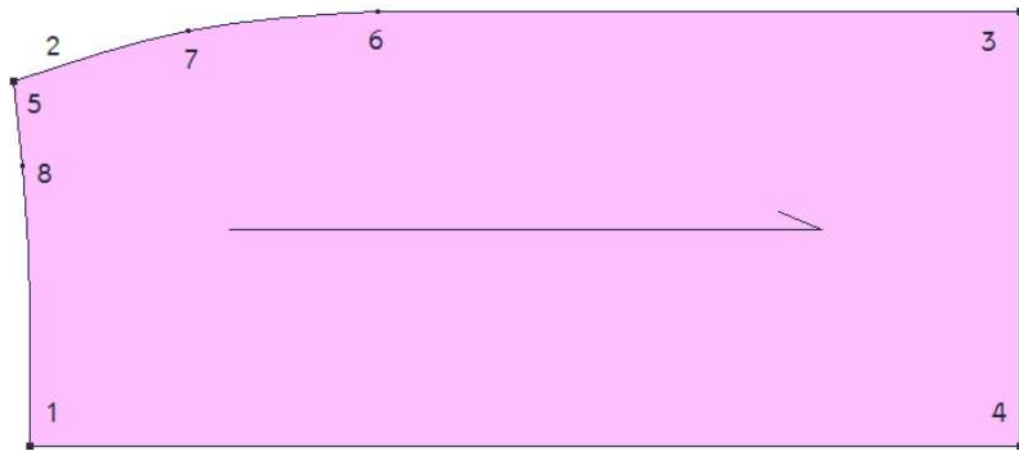9. Pick the selection tool and click the point 2 and press del button.
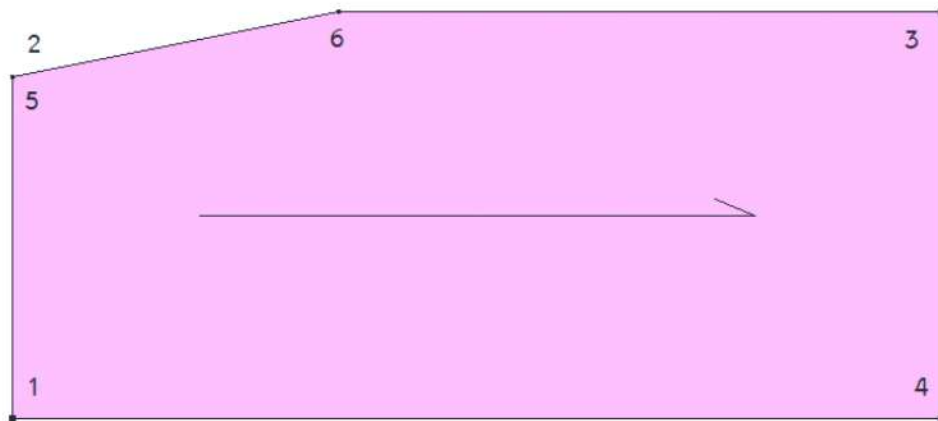
10. Use move point tool and move the point 5 straight towards the top side with a distance of 1 Cm. for waist curve.
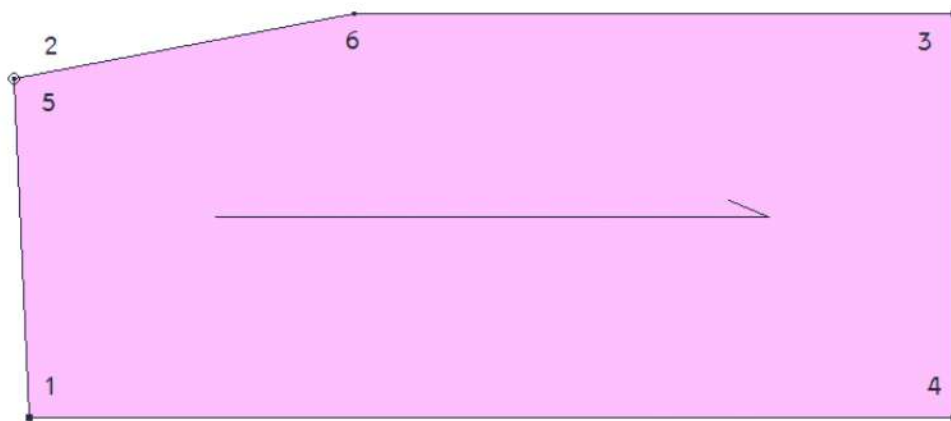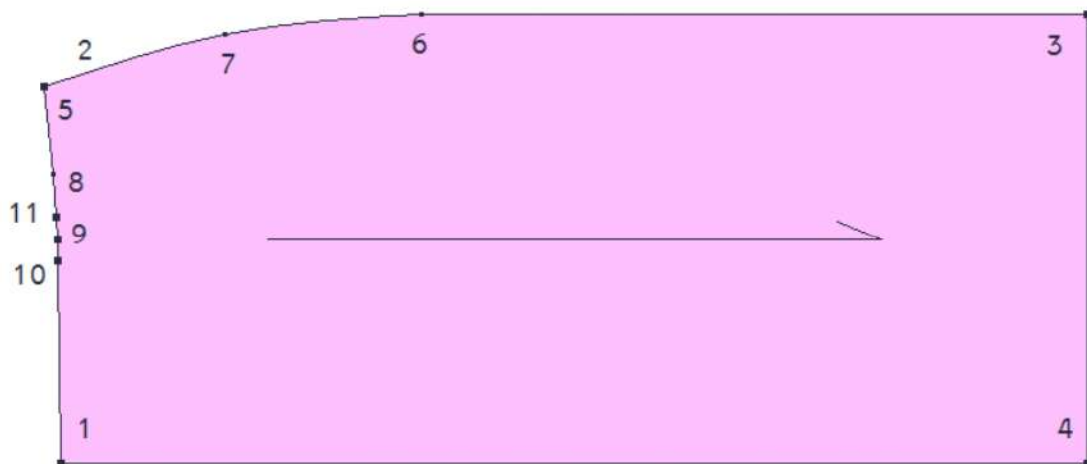


1. Create Curve points 7 & 8 in the mid level of 5-6 and 5 Cms. from point 5 respectively.
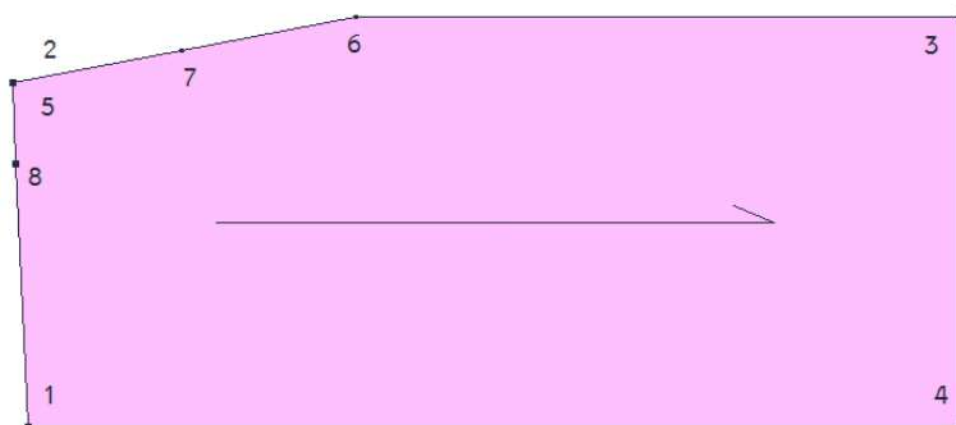


2. Move the points 7 & 8 with the help of move point tool and make smooth side and waist curves.

3. Create point 9 for dart placement on the waistline at 12.5 Cms. from point 1 (two-thirds of the front waist).

4. Create points 10 & 11 both sides of the point 9 at the distance of 1.25 Cms. for dart legs.



5. Select dart tool. Pick first point 10 and second point 11. Enter the dart depth as 8 Cms. in the dialog box. Click O.K.
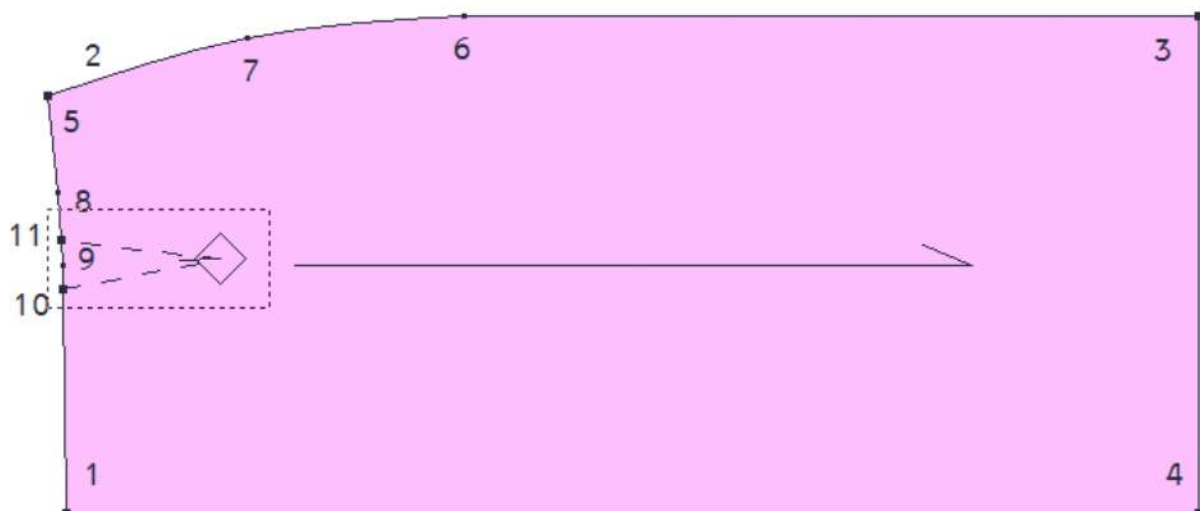
6. Select Text Tool and Type the name and other pattern particulars.
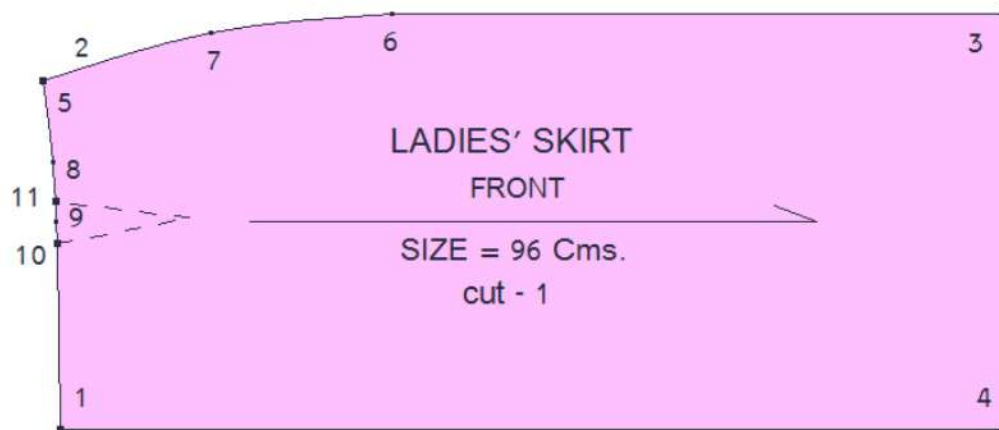


7. Select the seam tool. Select first seam point 1 by holding the mouse down. Drag cursor end of the seam in the Clockwise direction and click the end seam point 2. Assign the exact seam (1 Cm.) in the dialog box. Click O.K.
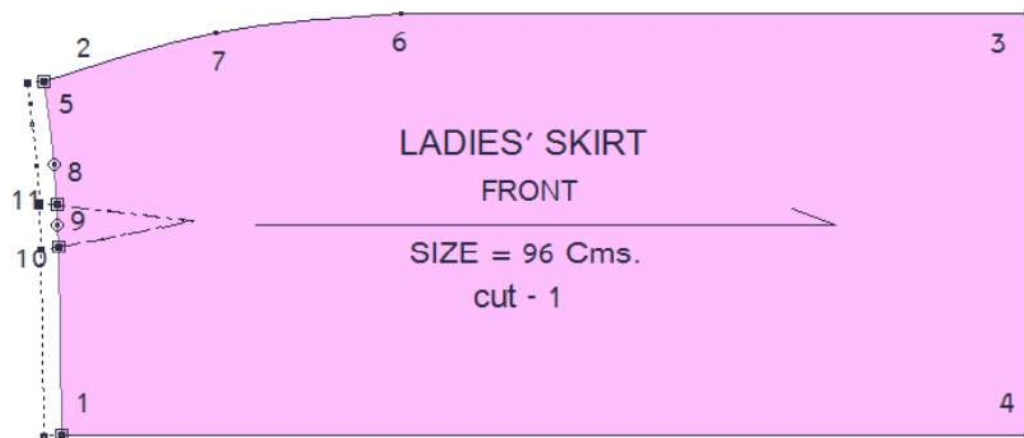


8. Select the second seam point 2 by holding the mouse down. Drag cursor end of the seam in the clockwise direction and click the end seam point 3. Enter the seam value. (1.5 Cms.). Click O.K.

9. Repeat the same process for 3 to 4 hem line and give hem allowance as 4 Cms.
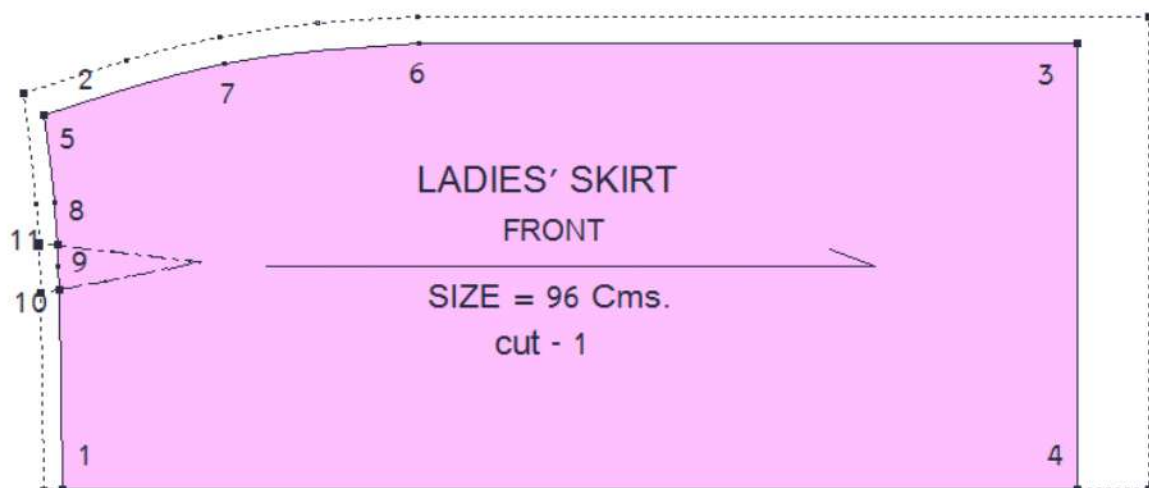
**Note**: As the line 1-2 is the Center Front Line and Fold line, There is no necessary to give seam allowance.

10. Use the "Switch to cut" tool (Short cut F5) and find that the seam lines are coming inside the pattern.
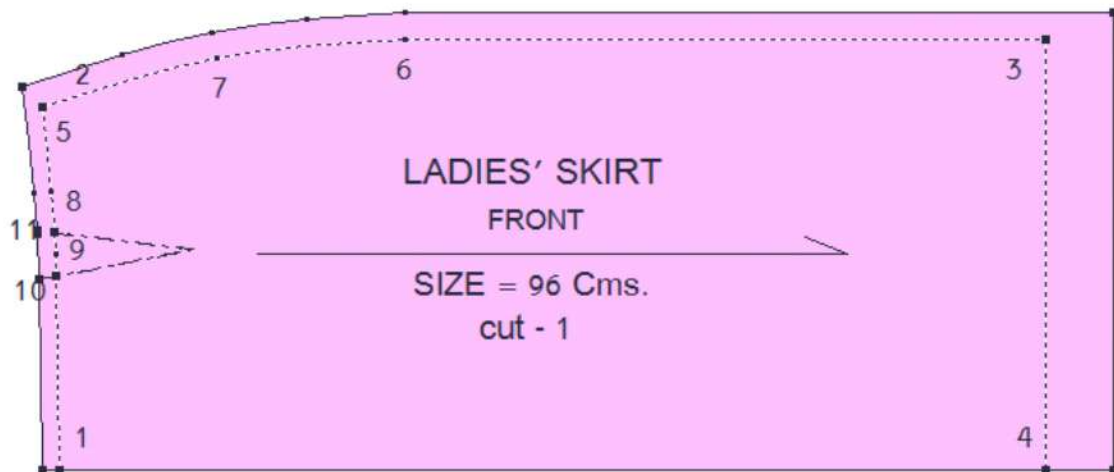


**Note**: With the help of delete seam or unseam tool, we can delete all the seams. Remove seam is used to change one particular seam.

11. Select point 4 (bottom of the fold line) with selection tool by holding the mouse down.

12. Drag cursor end of the fold line in the Clockwise direction and release the mouse button at the end point 1.

13. Click mirror tool to find that the pattern has been opened in the fold line.
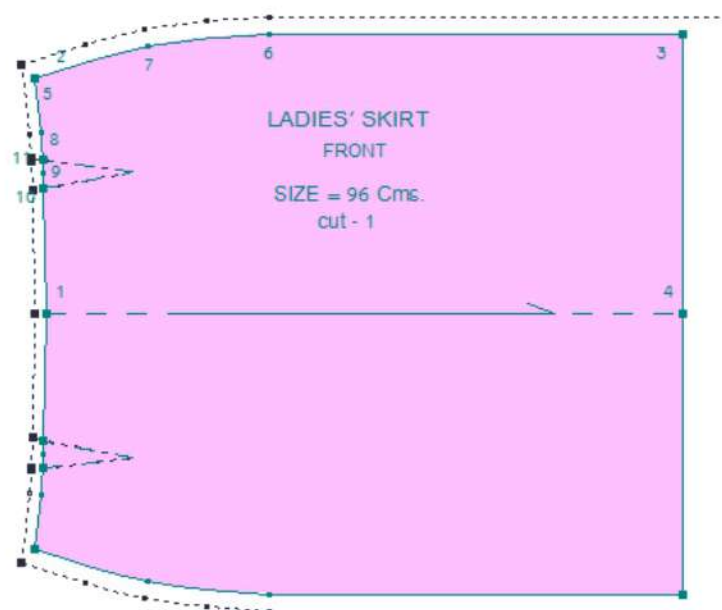
14. Save the file in the proper folder.


## B. Creating Patterns for Basic Straight Skirt Back.


1. Repeat the same process as explained in for Front Pattern.

2. *Do the following Changes*.

- 1-5 = 23 Cms., (one fourth of waist plus 1 cm for ease + 4.5 Cms. for dart).

- 9 = mid level of 1-5.

- 9-10 & 9 – 11 = 2.25 Cms. (For 4.5 Cms. dart).

- Dart Length = 14 Cms.

3. Open the Front Skirt Pattern.

4. Select the measure tool in the tool bar.

5. Click the start point 5 and click the end point 6.

6. Note the measurement of the curve 5–6 in the dialog box.

7. Check the same for the back pattern.

8. Adjust the curve 5-6 in the back pattern by moving point 7 with the help of move point tool.
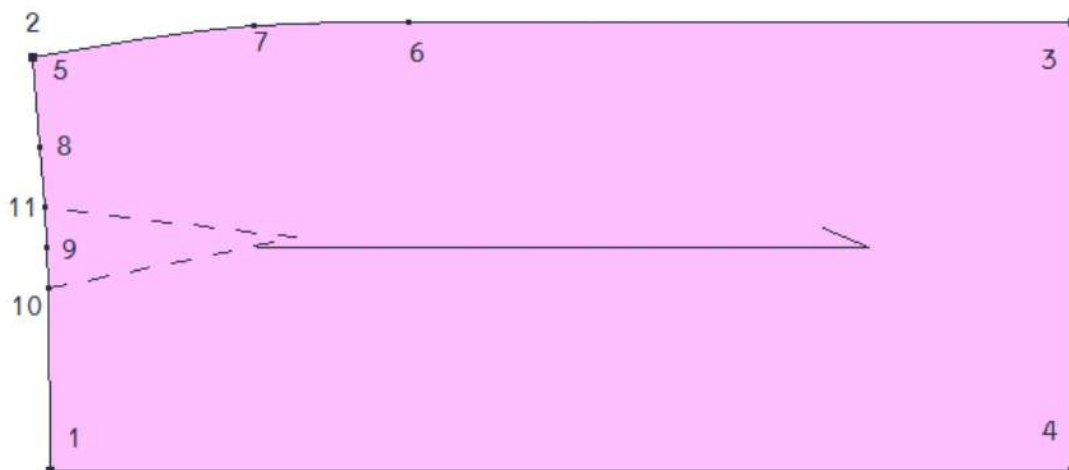


9. Check the curve 5-6 has the equal measure as in the Front Pattern.

10. Select the text tool and type the pattern particulars.

11. Add seam and hem allowance.

12. Open the pattern in the fold line.

LADIES' SKIRT
BACK

SIZE = 96 Cms.
Cut-1
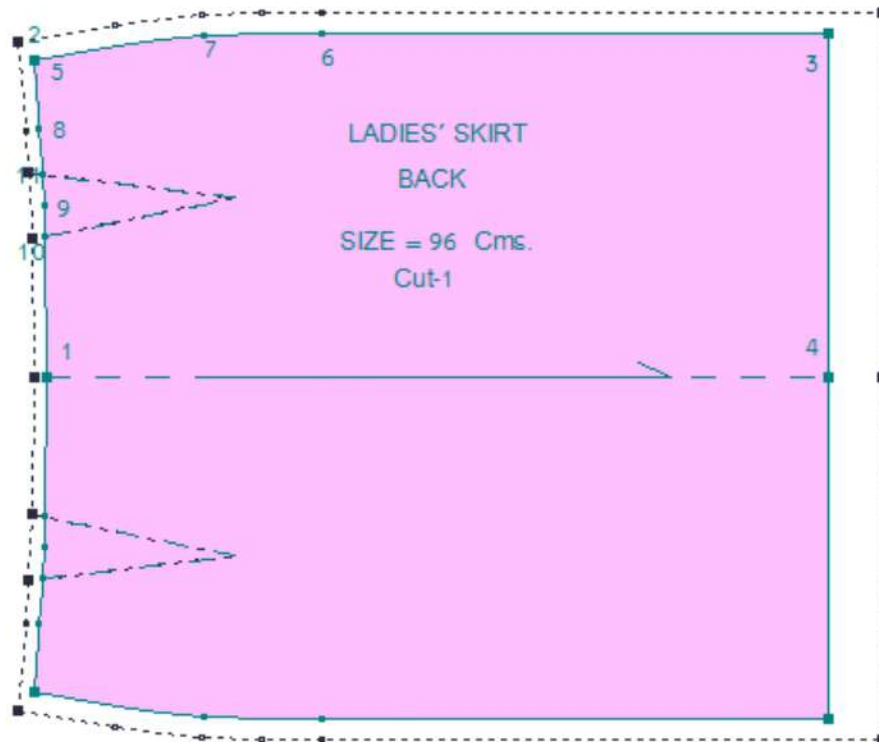
13. Save the file in the proper folder.

## C. Creating Pattern for a Skirt Waist Band.

1. Create a Rectangle of 79 cms,. length (waist measurement + 4 Cms. for ease + 5 Cms. for Waist band over lap) and 8 Cms.(Double of Waist band width (4 Cms.) ) width.
2. Select the text tool and type the pattern particulars.
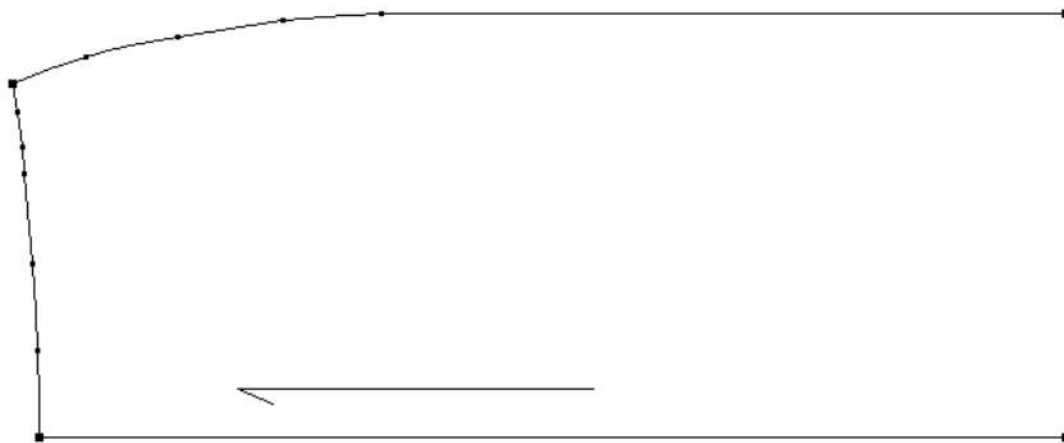3. Add seam allowance all sides 1 cm each.



LADIES' SKIRT
SIZE – 96 Cms.
WAIST BAND
CUT - 1
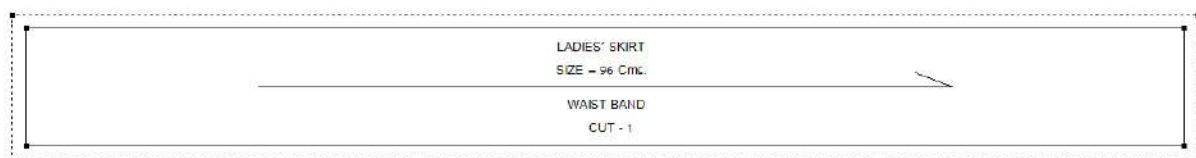
4. Save the file in the proper folder.

**EXPT. NO.6**

**Date:**

# PRACTICING PLEAT TOOLS.

## A. Creating a Box Pleat.

1. Open a Basic Straight Skirt Front pattern file.
2. Remove the dart and seam allowances.



3. Select Pleat tool.
4. Select pleat start point.
5. Select pleat end point
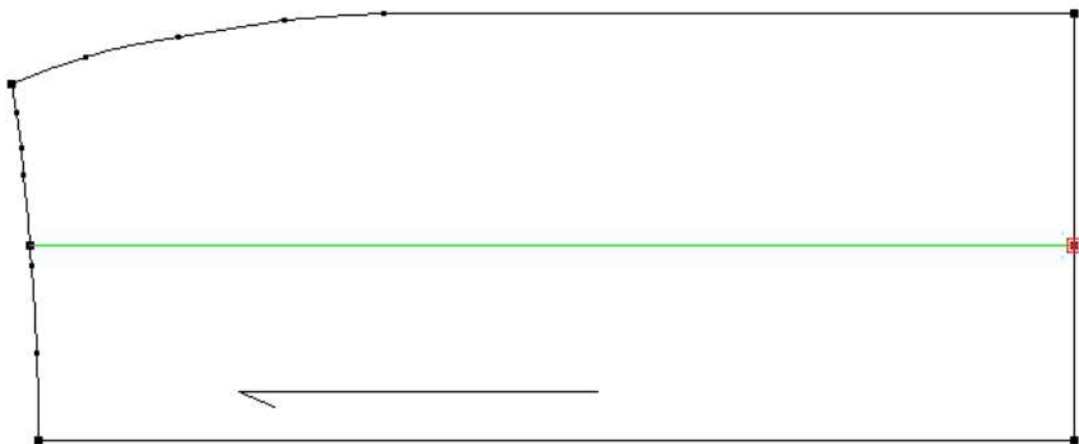


6. Select Box Pleat in the Pleat attribute box.
7. Fill the details like Depth of pleat = 3 Cms. and No. of pleat = 1.
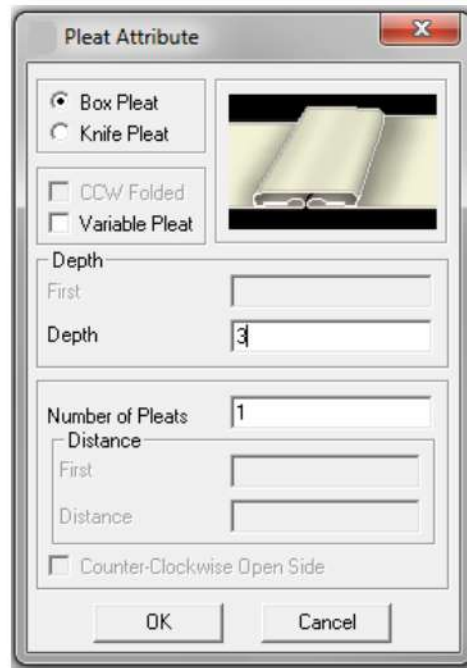
8. Click O.K.
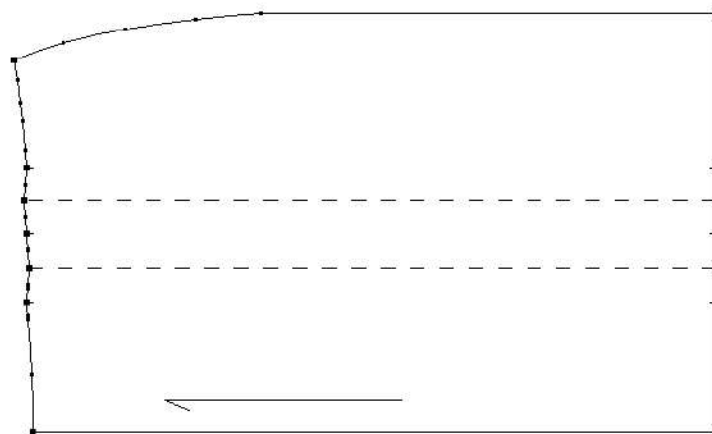


## B. Creating a Knife Pleat.

1. Open a Basic Straight Skirt Front pattern file.

2. Remove the dart and seam allowances.

3. Select Pleat Tool.
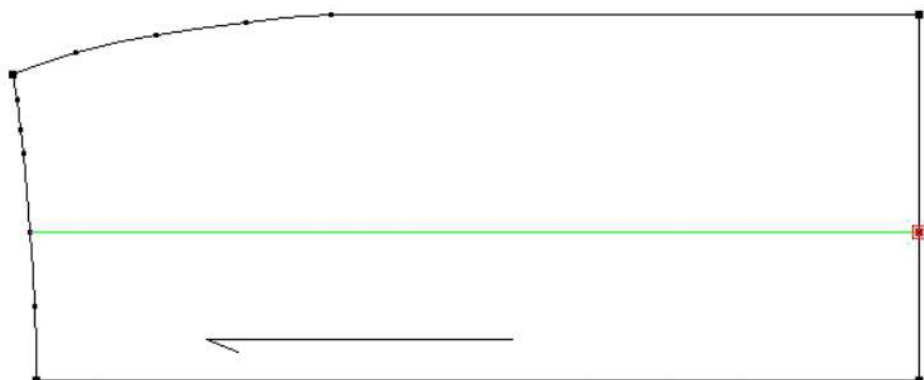
4. Select Knife Pleat in the Pleat Attribute box.

5. Specify the details like Depth = 1 Cm., No. of pleats = 3, Distance = 2 Cms.
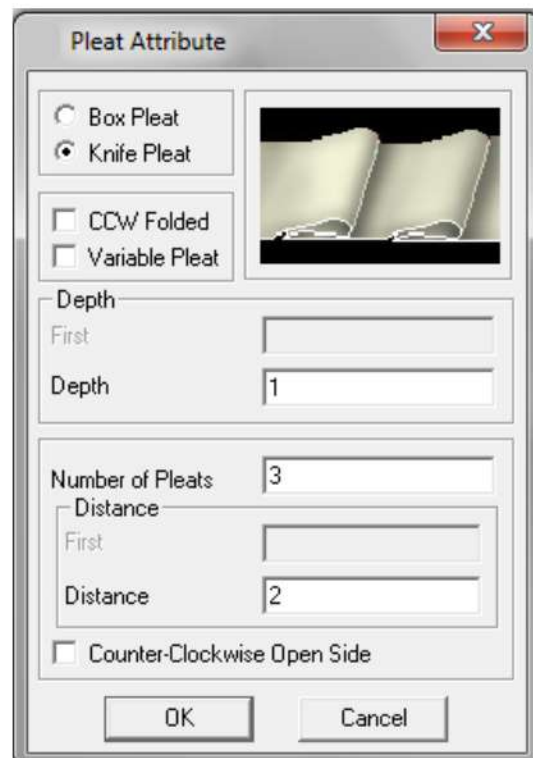


6. Click O.K.
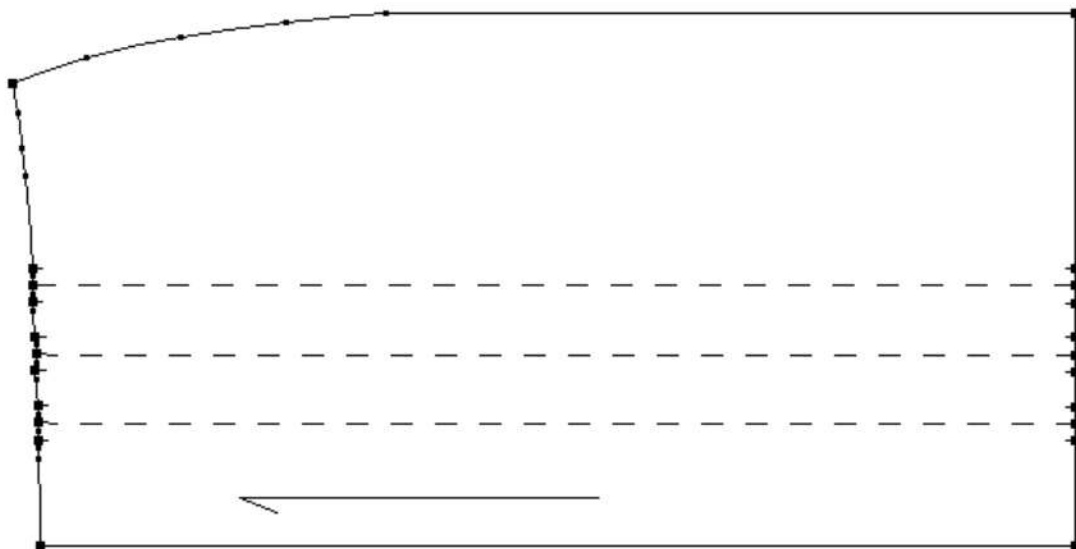


## C. Creating Multi Pleats.

1. Open a Basic Straight Skirt Front pattern file.

2. Remove the dart and seam allowances.

3. Select the First and Last points of Multi Pleat by select and dragging the mouse.
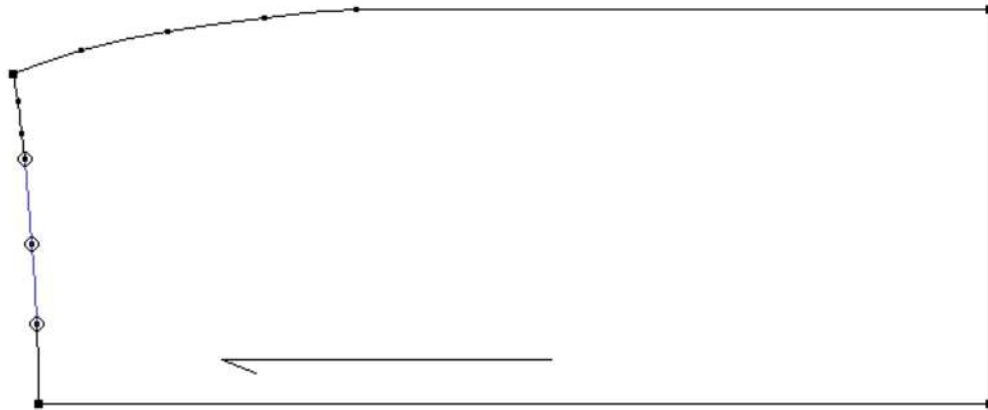
4. Go to Pleats Menu and select Create Multi Pleat option.

5. Enter Number of Pleats = 2, select the type of pleat = knife pleat and enter the depth of pleats = 2 Cms.
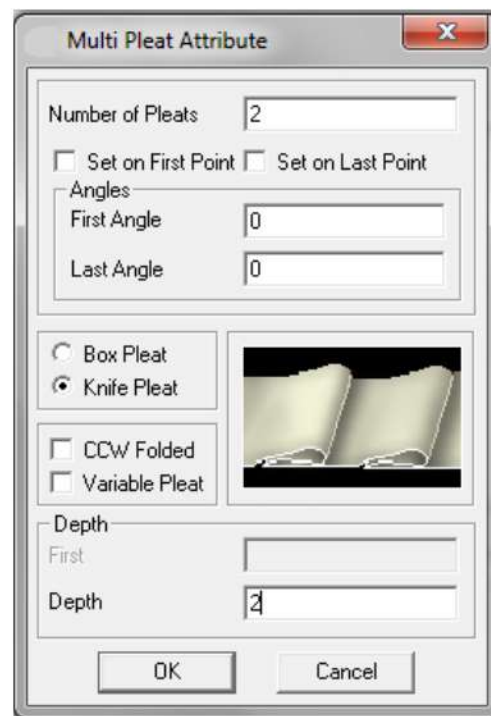


6. Click O.K.
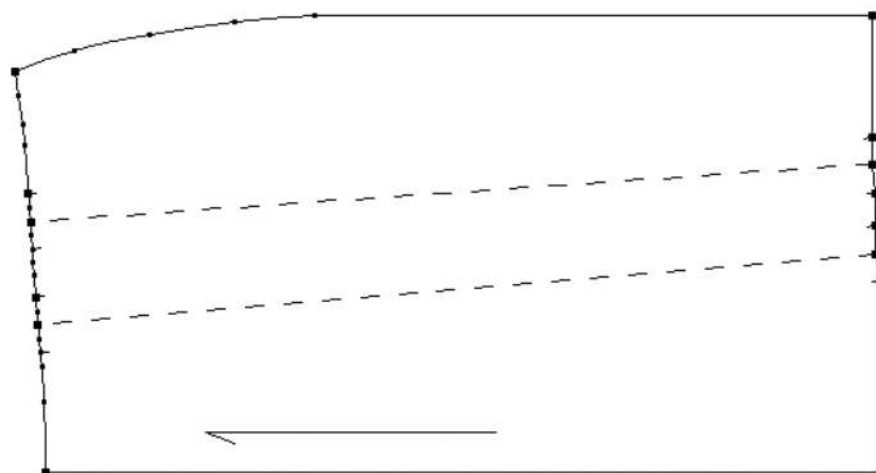
> **Note**: You can set angle of pleats also. The Pleat angles will be divided equally: for instance if you got 4 points and the first angle is 30 degrees and the last angle is 45 degrees then the second angle will be 35 degrees, and the third one will be 40 degrees.

## D. Closing a Pleat.

1. Open a Skirt pattern with pleats.
2. Select the pleat to be closed with the help of the selection tool.
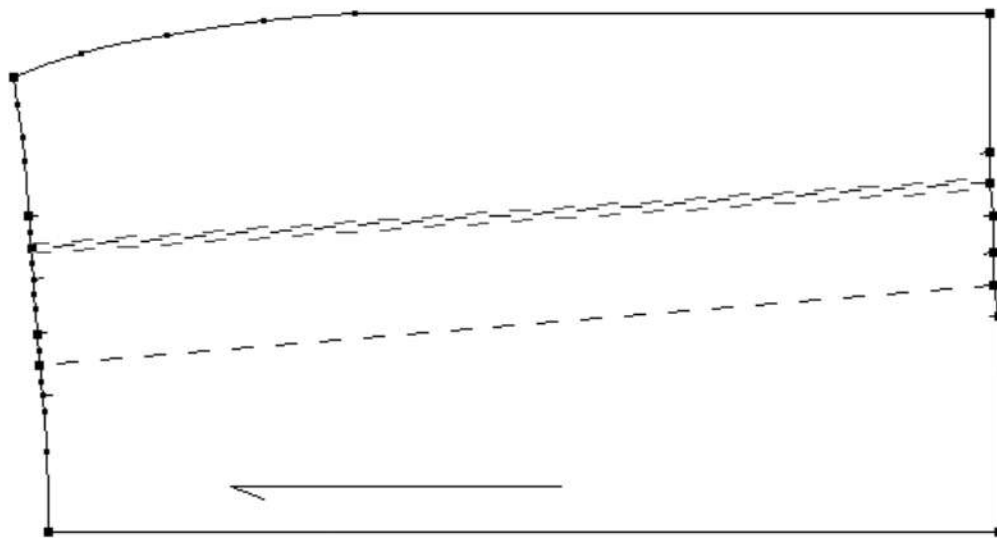


3. Choose Close Selected Pleats from the Pleat Menu.
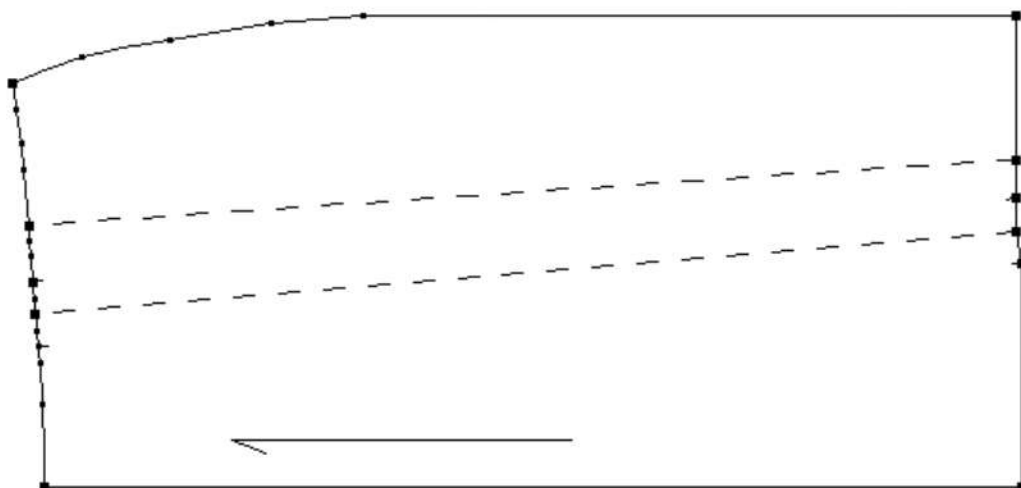


4. If selection of more than one pleat is required, use the shift of control key with the selection tool.
5. Close all pleats is used to close all the pleats by selecting one pleat.

### E. Opening a Pleat.

1. Select the pleat to be opened with the help of the selection tool.
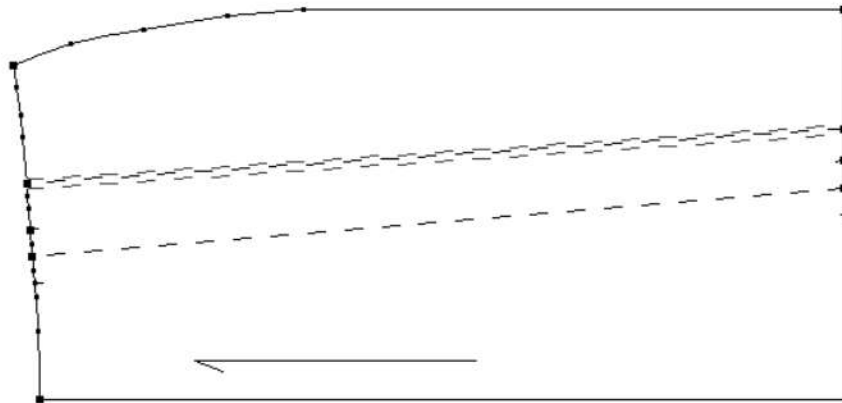
2. Choose Open Selected Pleats from the Pleat Menu.
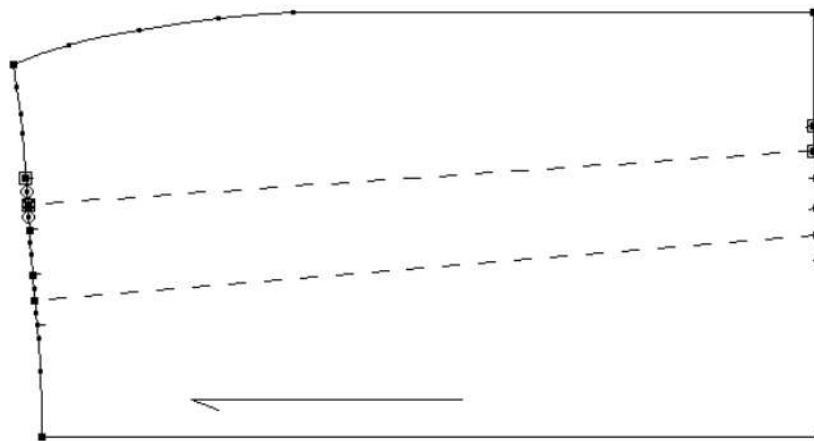
3. If selection of more than one pleat is required, use the shift of control key with the selection tool.

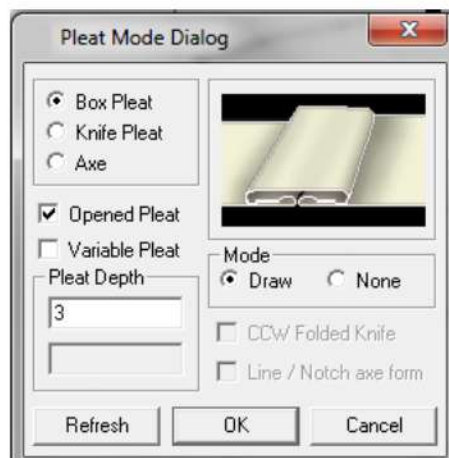4. Open all pleats is used to Open all the pleats by selecting one pleat.

### F. Editing a Pleat.

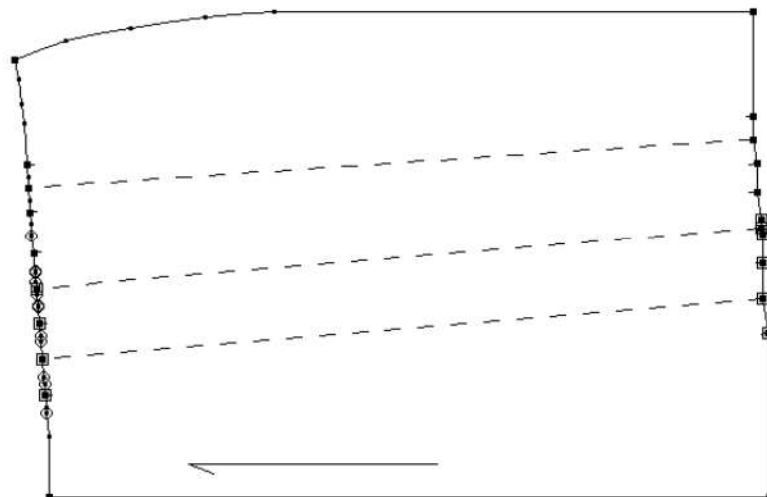1. Select the pleat to be edited with the help of the selection tool.
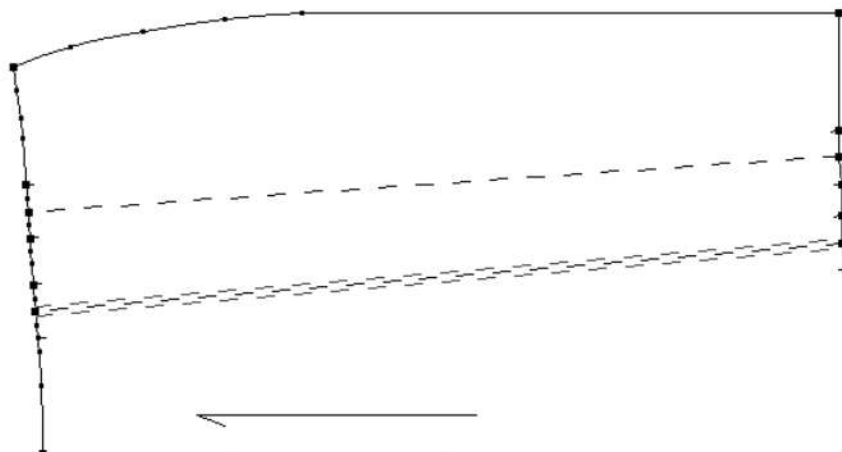
2. Choose Edit pleat from the Pleat Menu.

3. Modify the values of type of pleat and pleat depth in the pleat mode dialog box.
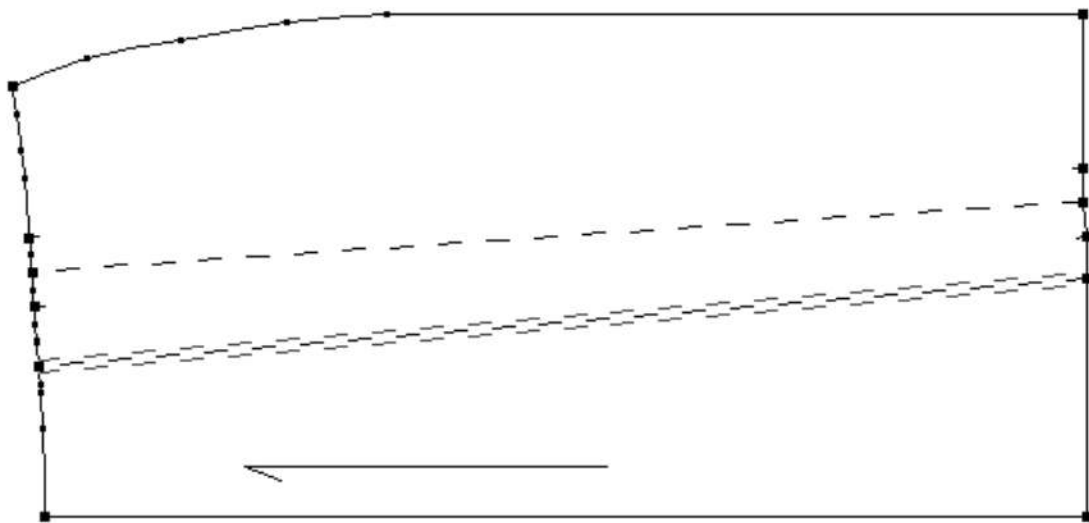


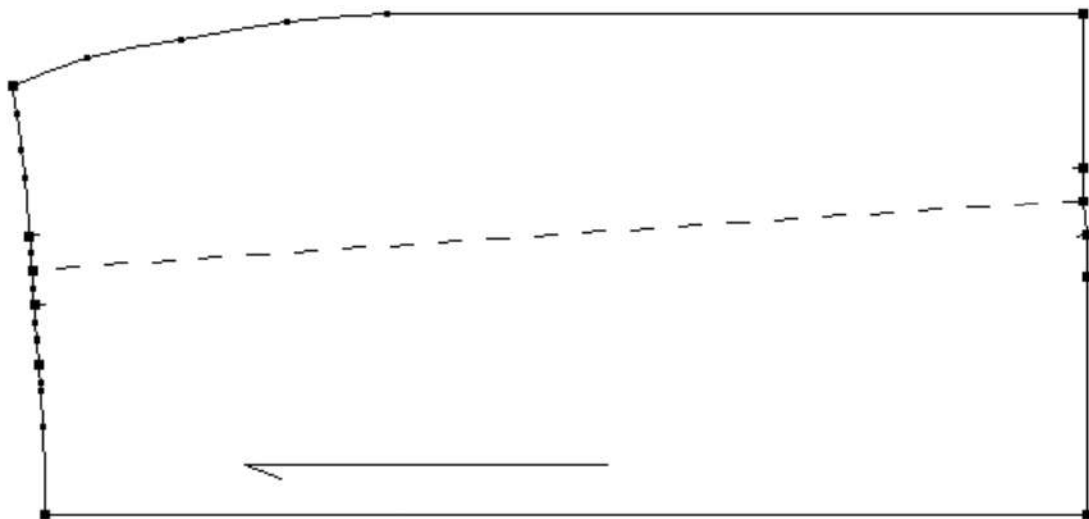4. Click O.K.



## G. Removing a Pleat.

1. Open a Skirt pattern with pleats.
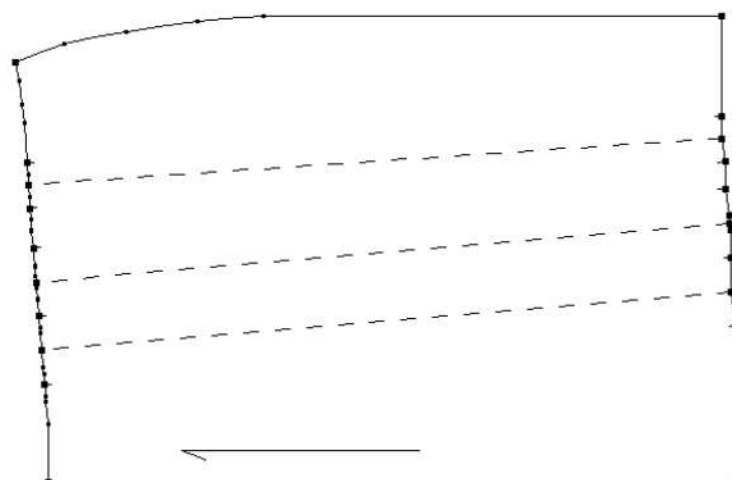
2. Close the required pleat and select the pleat with the help of selection tool.



3. Choose Remove pleats from the Pleat Menu.  Use shift or control key to select more than one pleat.
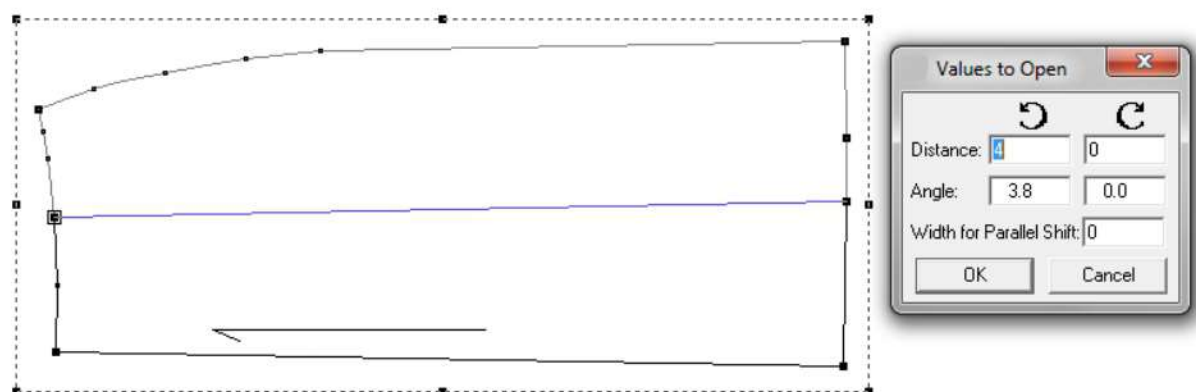
**EXPT. NO.7**

**Date:**

# PRACTICING FULLNESS TOOLS.
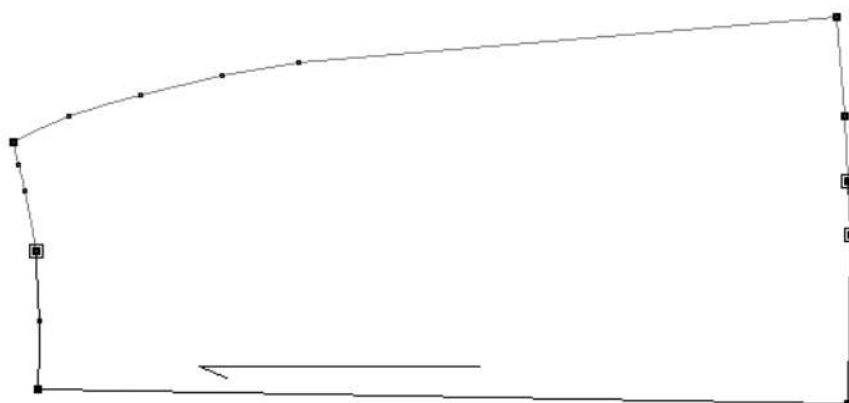
## A. Adding Fullness in a Pattern.

1. Open a Basic Straight Skirt Front pattern file.

2. Remove the dart and seam allowances.

3. Select add fullness tool.

4. Select the opening pivot point.(at the hemline)

5. Select the fullness end point along the outline. (at the waistline).
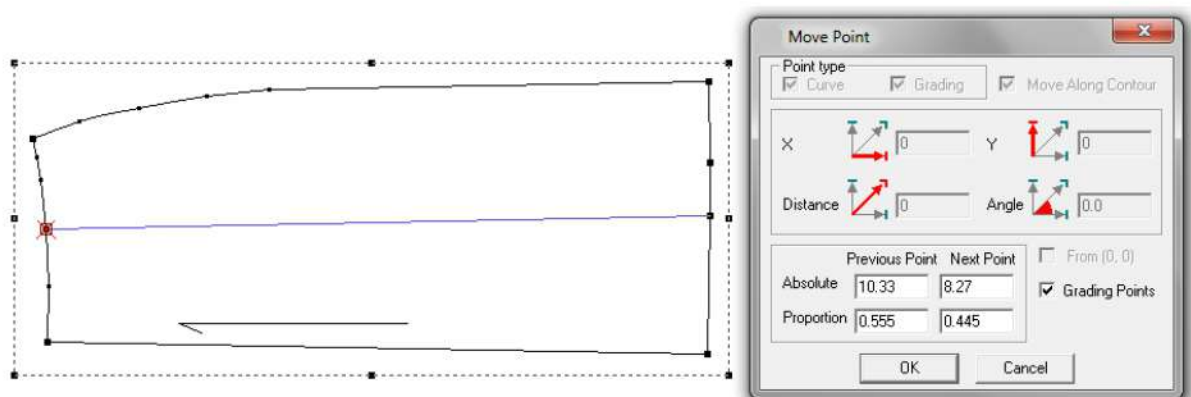


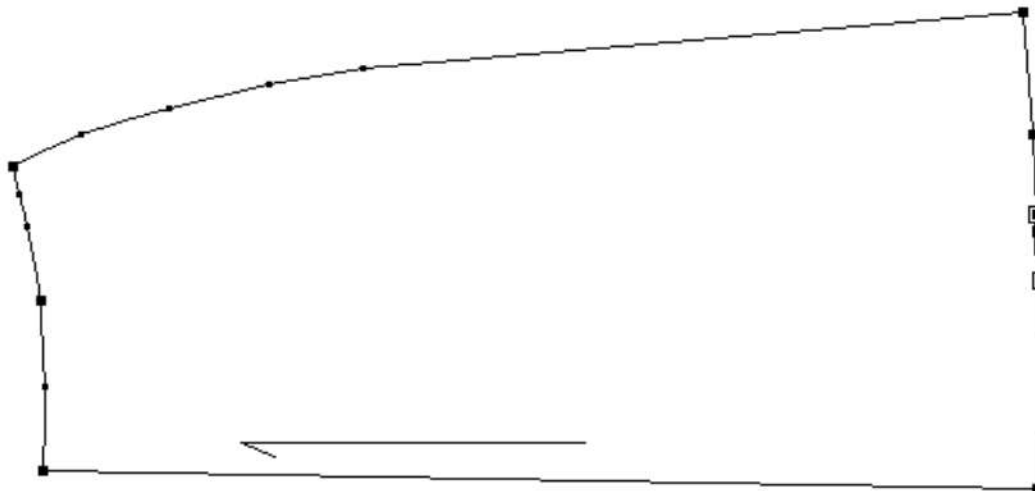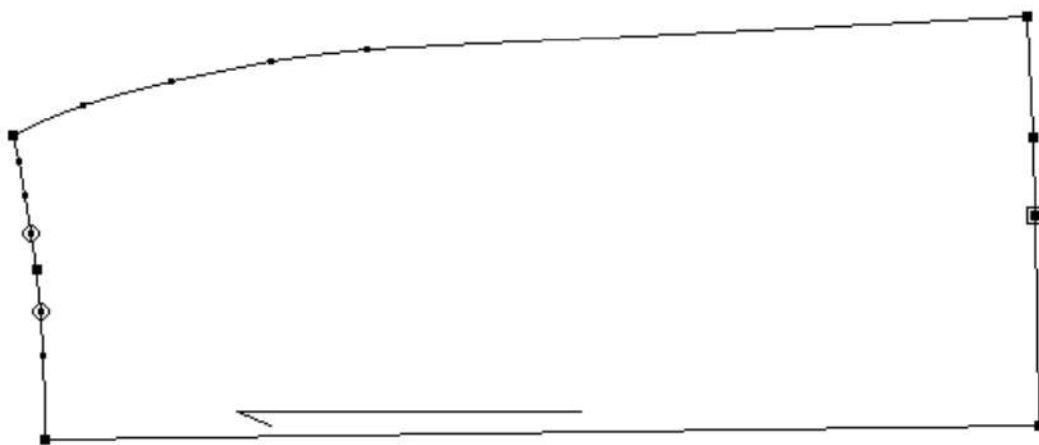6. Specify the values in the Values to open box. Enter the distance = 4 Cms.



7. Click O.K.

## B. Closing Fullness in a Pattern.

1. Open a pattern with fullness.
2. Select the opened fullness area by select and drag the mouse with the start point to the end point in clockwise direction.
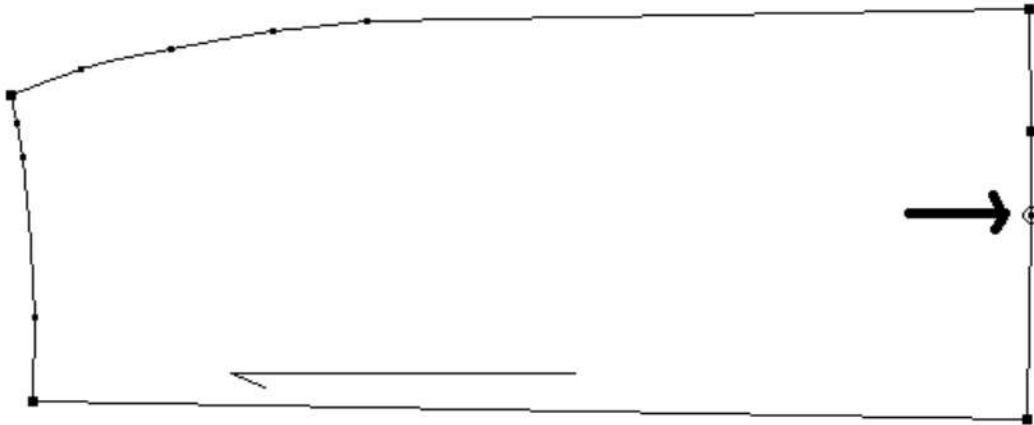


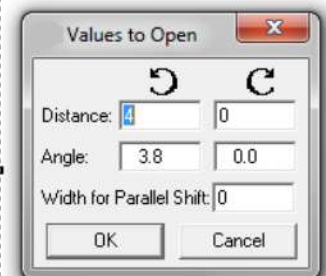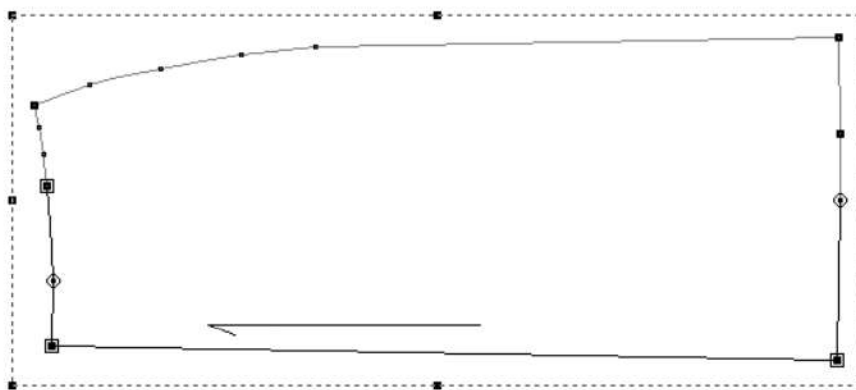3. Go the darts menu and select fullness and click close fullness.



> **Note**: You can also use the Undo command to bring the fullness back.

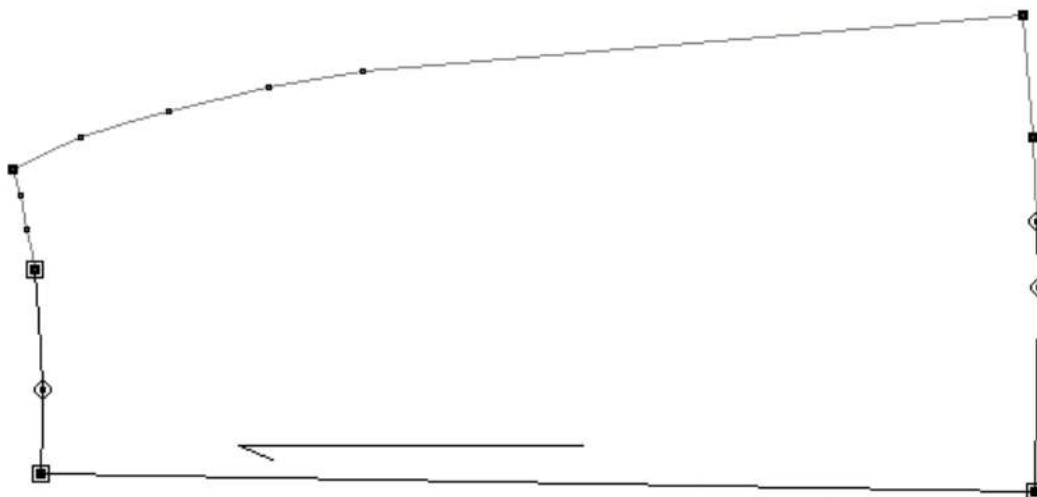## C. Opening Fullness in a Pattern.

1. Open a Basic Straight Skirt Front pattern file.
2. Remove the dart and seam allowances.
3. Create a point at the hemline and select the point.

4. Go the darts menu and select fullness and click Open fullness.

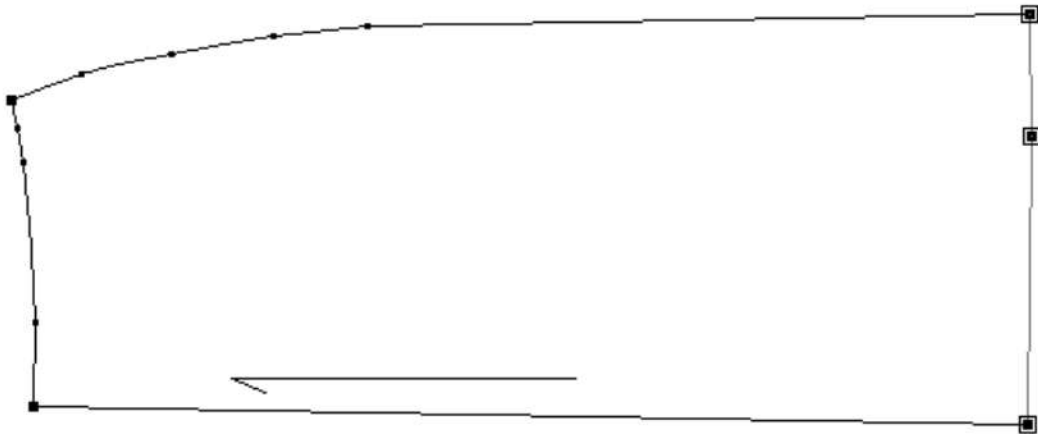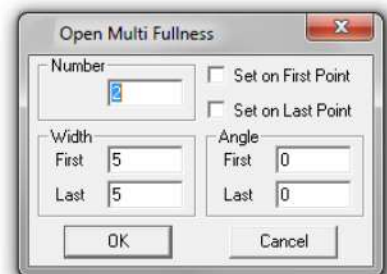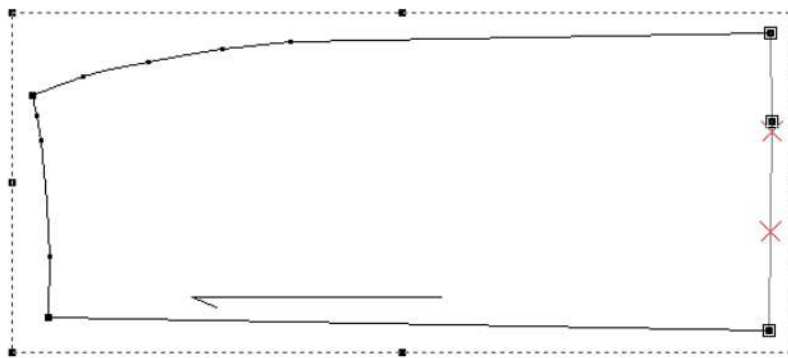5. Enter the distance to be opened equal to 4 Cms.



6. Click O.K.



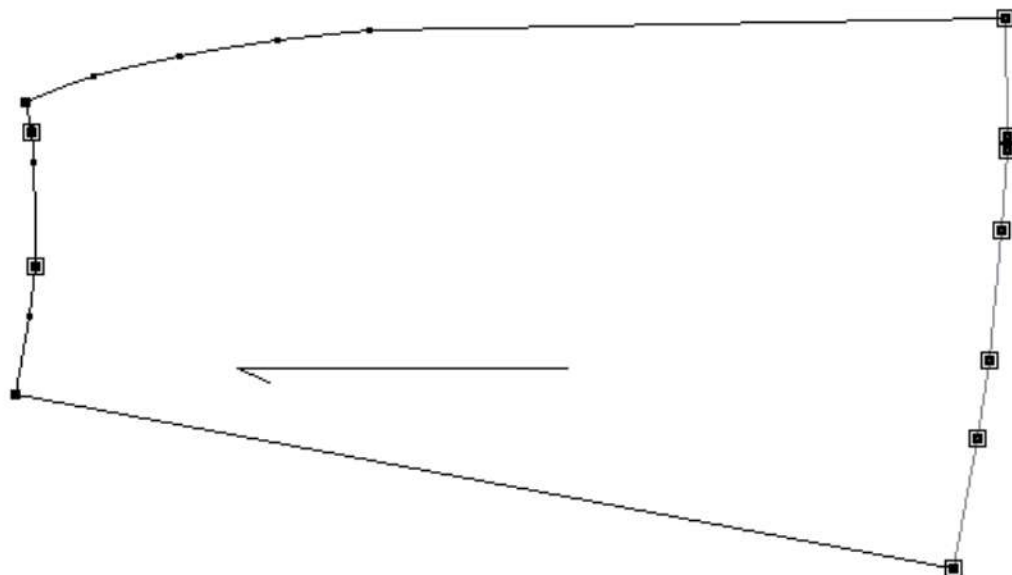## D. Adding Multi Fullness in a Pattern.

1. Open a Basic Straight Skirt Front pattern file.

2. Select the hemline in clockwise direction.

3. Go the darts menu and select fullness and click Open Multi fullness.

4. Enter the Number, width of first and last fullness points.



5. If angles required enter the angles of first and last fullness points also.
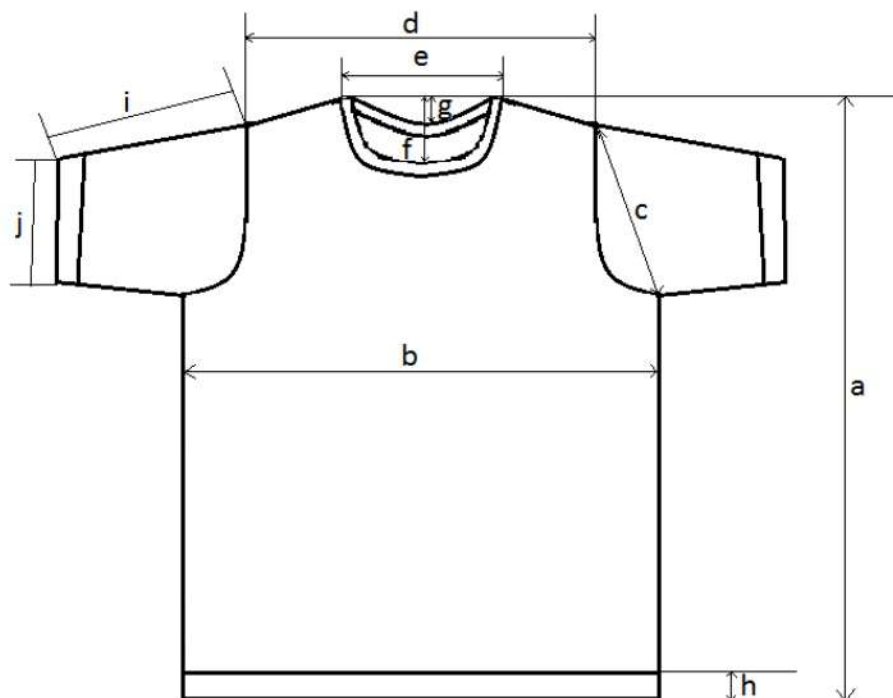
6. Click O.K.

**EXPT. NO.8**

**Date:**

# CREATING PATTERNS FOR A 'T' SHIRT USING SEPC. SHEET.

## A. Creating pattern for a 'T' Shirt Front.

1. Read completely all the details of the Specification sheet of a 'T' Shirt.



**'T' SHIRT**

## MEASUREMENT CHART ( IN CMS).

| Sl. No. | Notation | Measurement | S | M | L | XL |
|---------|----------|-------------|-----|-----|-----|-----|
| 1. | a | Length from HSP | 55.5 | 57.5 | 59.5 | 61.5 |
| 2. | b | Half Chest | 41 | 43 | 45 | 47 |
| 3. | c | Half Armhole Straight | 19 | 20 | 21 | 22 |
| 4. | d | Shoulder | 35 | 37 | 39 | 41 |
| 5. | e | Neck Width | 16 | 17 | 18 | 19 |
| 6. | f | Front Neck Drop | 6.5 | 7 | 7.5 | 8 |
| 7. | g | Back Neck Drop | 1.5 | 1.5 | 1.5 | 1.5 |
| 8. | h | Bottom Hem | 4 | 4 | 4 | 4 |
| 9. | i | Sleeve Length | 20 | 21 | 22 | 23 |
| 10 | j | Half Sleeve Open | 13 | 14 | 15 | 16 |

2. Select a size for making patterns. (Size 'M').

3. Open the software.

4. Select options in the menu bar. Select "Cms." as unit.

5. Go to File and click new.

6. Give the name of the pattern as 'T' Shirt Front.

7. Create a Rectangle of 57.5 cms. length (for Total length from HSP) and 21.5 Cms. width. (Half of ½ chest width).

8. Name the corner points of the rectangle from 1 to 4.

9. Select point tool and mark the points 5 to 9 as follows.

   1-5 = 18.5 Cms. (Half of Shoulder).

   1-6 = 8.5 Cms (Half of neck width).

   1-7 = 7 Cms. (Front neck drop).

   1-8 = 1.5 Cms. (Back neck drop).

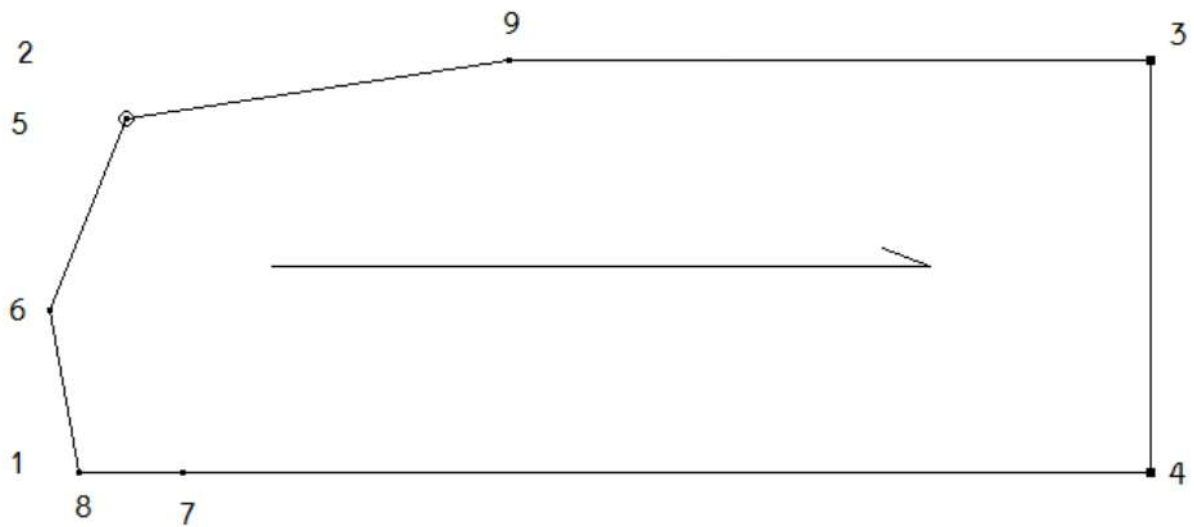   2-9 = 24 Cms. ( ½ Armhole straight + 4 Cms. for Shoulder Drop).
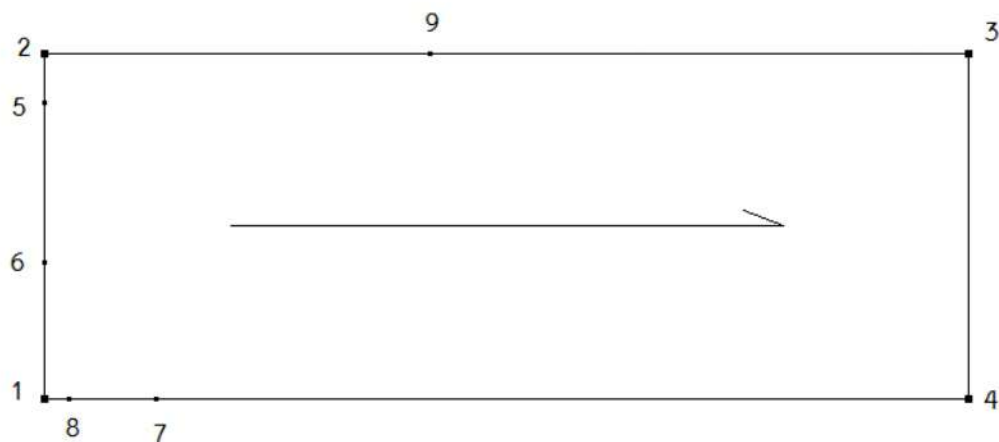


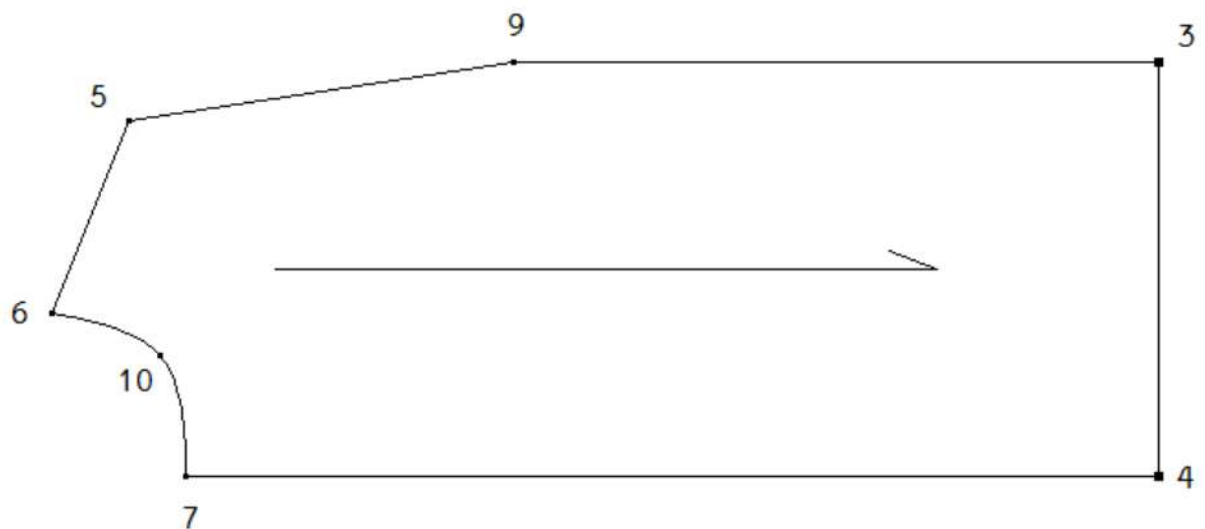10. Pick the selection tool, click the point 1 and press del button. Delete point 2 also.
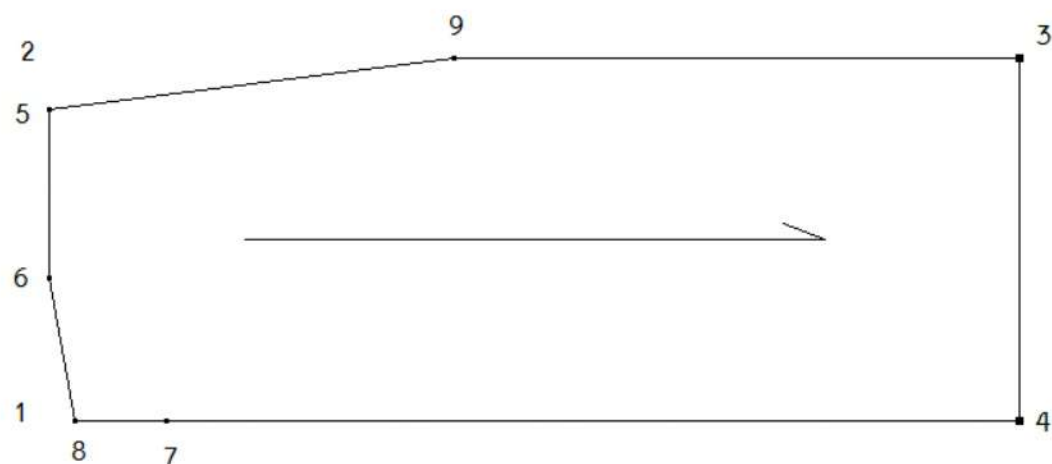
11. Use move point tool and move the point 5 straight towards the bottom side with a distance of 4 Cms. for shoulder drop.



12. Go to menu and copy the pattern.
13. Paste the pattern near by the front pattern and give name as 'T' Shirt back.
14. Click the Front pattern with the help of selection tool.
15. Delete the point 8.
16. Create Curve points 10 in the mid level of 6-7. Move the point 10 with the help of move point tool and make smooth front neck curve.



17. Go to menu and select view and click Rulers.
18. Pick the selection tool and click on the horizontal ruler and drag the mouse down wards without releasing the mouse button for getting guide line.
19. Align the guide line 'X' on the point 5.
20. Get another guide line 'Y' which in vertical direction and align it at point 9.
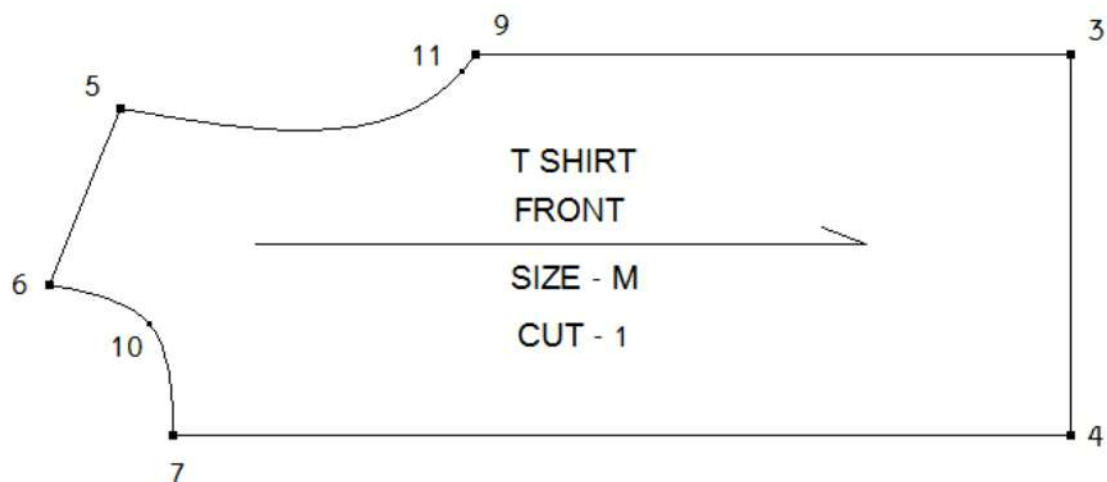21. Mark the curve point 11 with a distance of 2 cms. from point 9 on the line 9-5.

22. Shape the Front armhole with the help of move point tool.

23. Shape the curve inside the guide line X with the curve depth of 2 cms. inside.
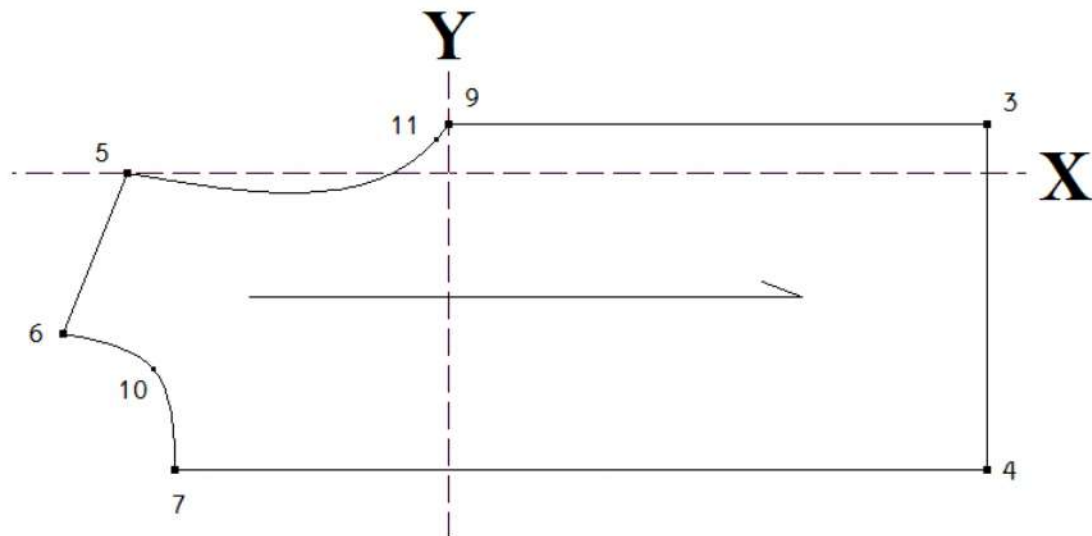


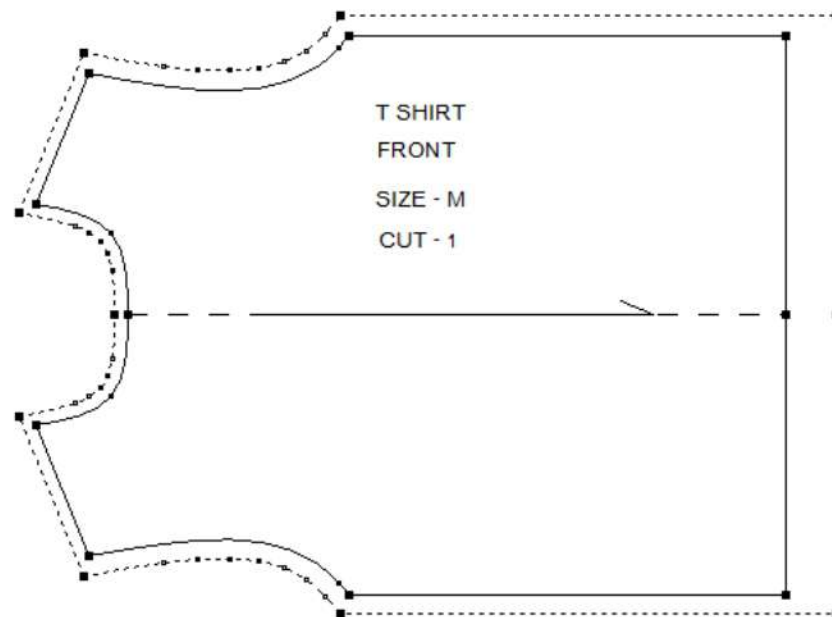24. Select the guide lines X and Y with help of the selection tool and press del.

25. Select Text Tool and Type the name and other pattern particulars.



26. Add seam allowance 1 cm each at the neck curve and shoulder. Add 1.5 Cms. as seam allowance at the armhole and side seam for over lock and 4cms. at the bottom as hem allowance.
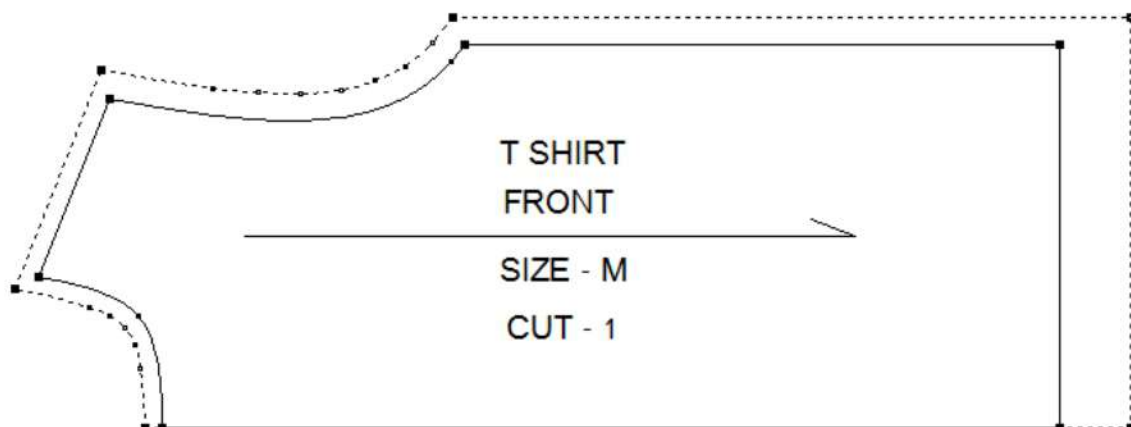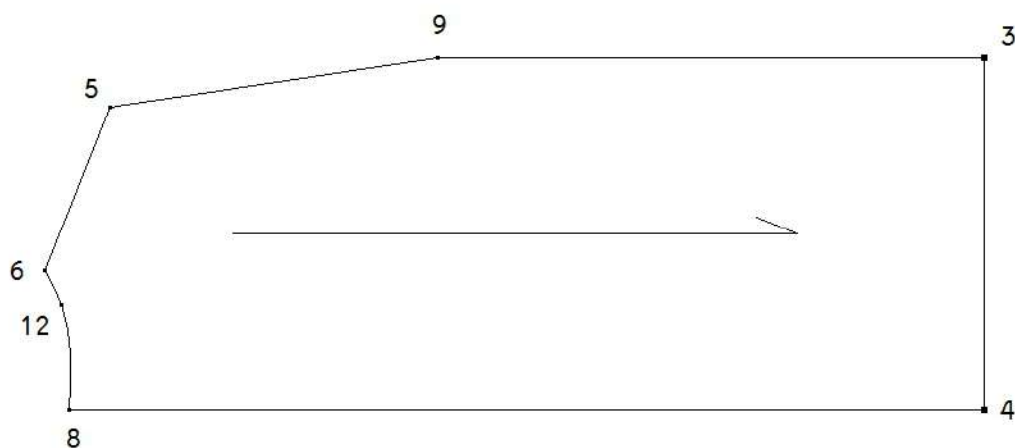
27. Open the pattern in the fold line.



28. Save the file in the proper folder.

## B. Creating pattern for a 'T' Shirt Back.

1. Open the saved 'T' Shirt back pattern.
2. Delete the point 7.
3. Create Curve points 12 in the mid level of 6-8 and Move the points 12 with the help of move point tool and make smooth back neck curve.



4. Go to menu and select view and click Rulers.
5. Pick the selection tool and click on the horizontal ruler and drag the mouse down wards without releasing the mouse button for getting guide line.
1. Align the guide line 'X' on the point 5.
2. Get another guide line 'Y' which in vertical direction and align it at point 9.
3. Mark the curve point 13 with a distance of 2 cms. from point 9 on the line 9-5.

4. Shape the Back armhole with the help of move point tool.

5. Shape the curve on the guide line X from the middle of the armhole up to the shoulder.
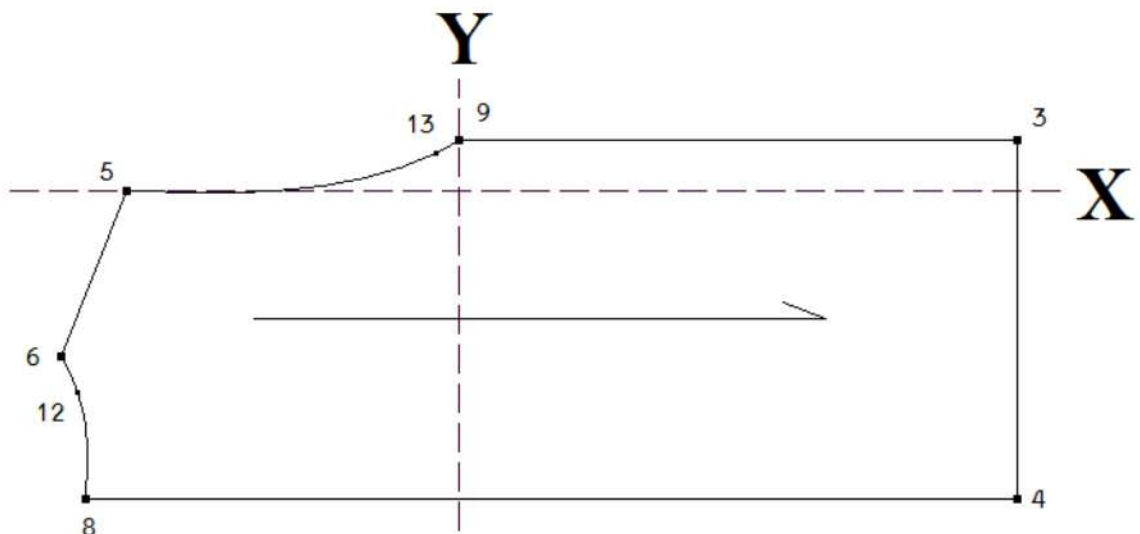


6. Select the guide lines X and Y with help of the selection tool and press del.

7. Select Text Tool and Type the name and other pattern particulars.
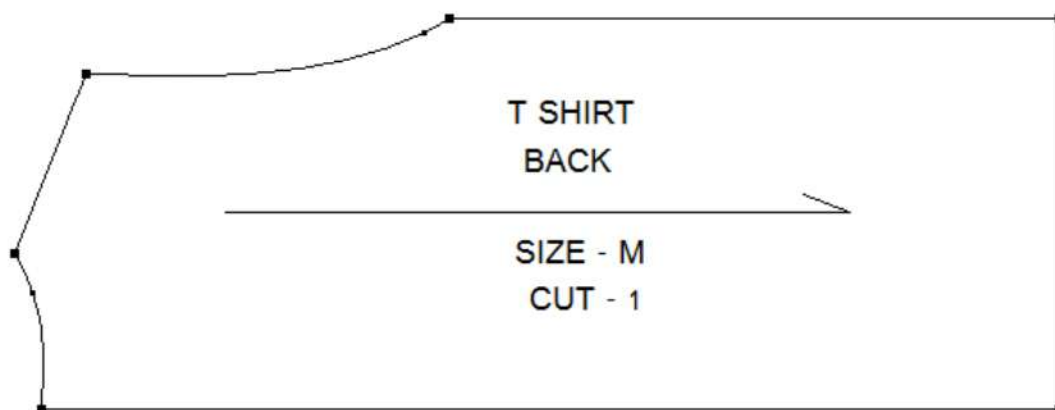


T SHIRT
BACK

SIZE - M
CUT - 1

8. Add seam allowance 1 cm each at the neck curve and shoulder. Add 1.5 Cms. as seam allowance at the armhole and side seam for over lock and 4cms. at the bottom as hem allowance.
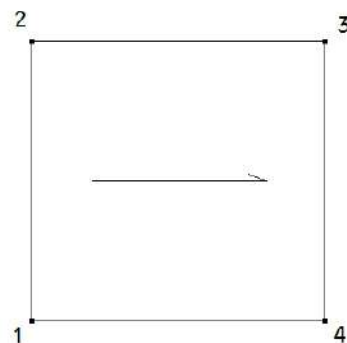


T SHIRT
BACK

SIZE - M
CUT - 1
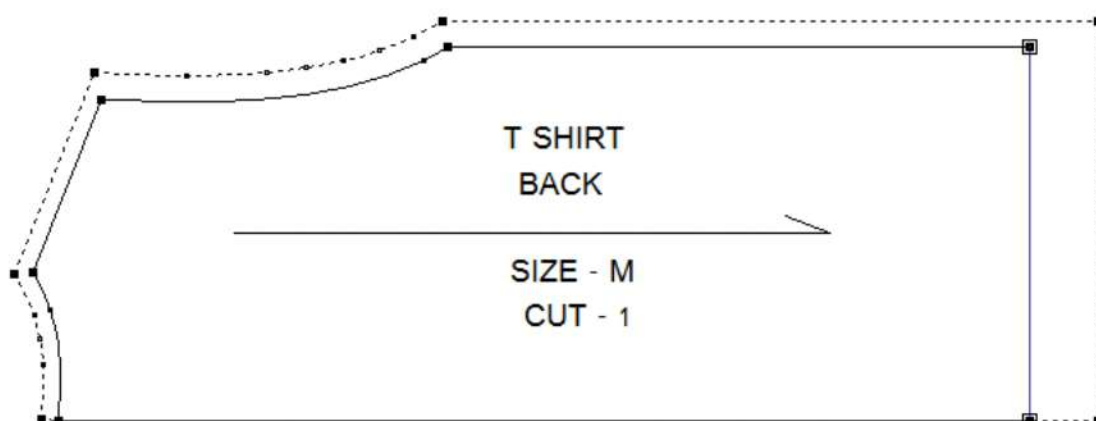
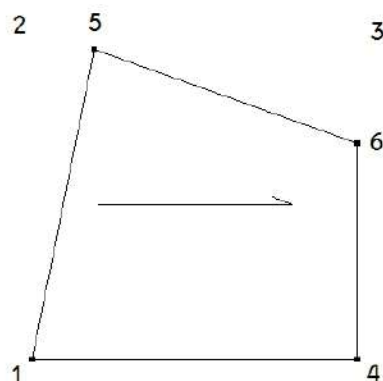9. Open the pattern in the fold line.



T SHIRT
BACK

SIZE - M
CUT - 1
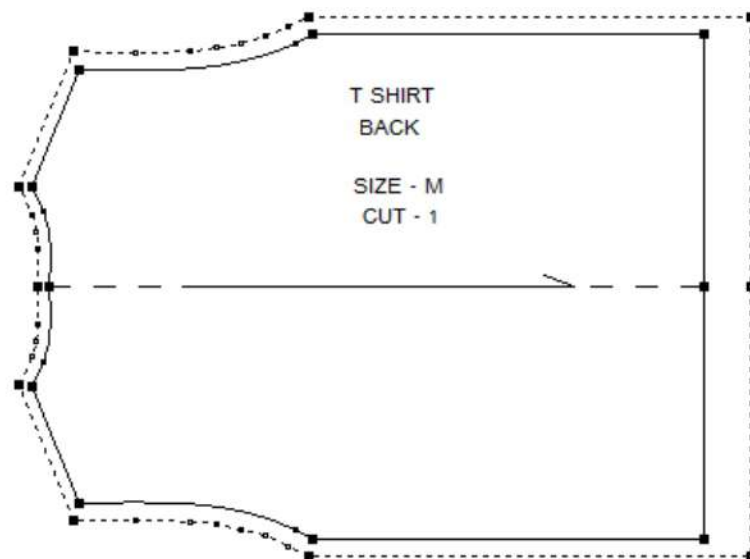
10. Save the file in the proper folder.

## C. Creating pattern for a 'T' Shirt Sleeve.

1. Create a Rectangle of 21 cms,. length ( Sleeve length ) and 20 Cms. width (Armhole length).
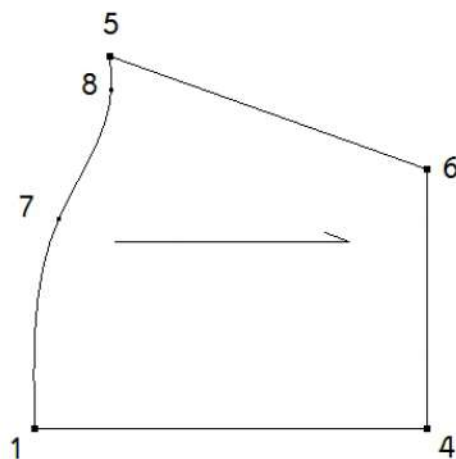
2. Mark points 1,2,3 & 4.



3. Mark point 5 from point 2 with the distance of 4 cms (Crown height).

4. Mark point 6 from point 4 with the distance of 14 Cms. (Half of Sleeve opening).
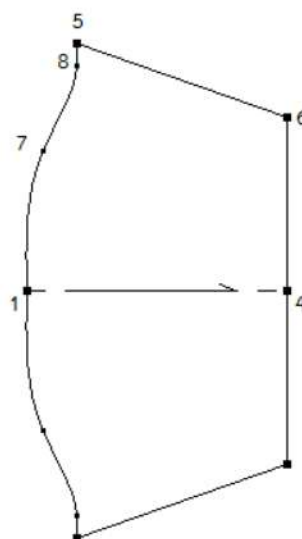
5. Delete points 2 & 3.

6. Mark curve point 7 at the mid level of 1-5.

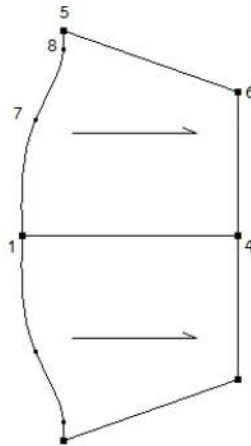7. Move curve point 7 and make 1-5 as smooth curve.
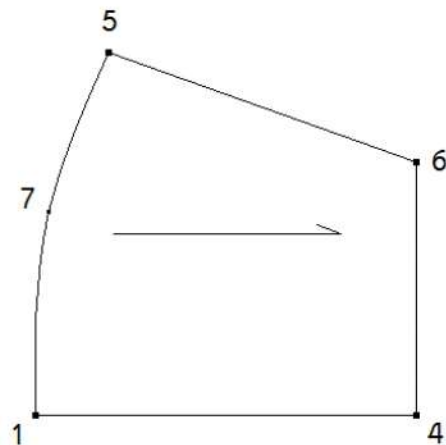


8. Also mark curve point 8 near point 5 at the distance of 3 cms.

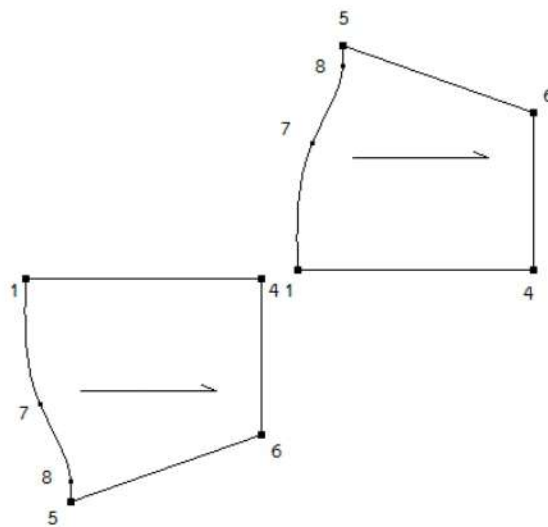9. Move point 8 and make a smooth curve.



10. Open the pattern in the fold line using mirror tool.



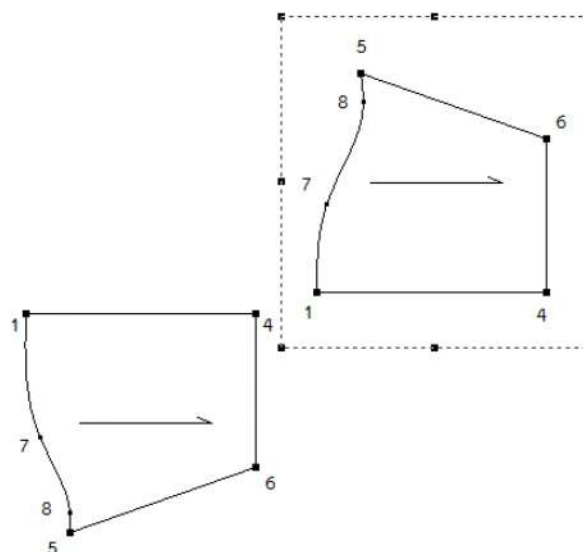11. Select the cut tool and select the line 1-4.

12. Select the selection tool. Click the top part of the sleeve and drag.



13. Identify the bottom portion as Back part of the sleeve and top portion will be Front.
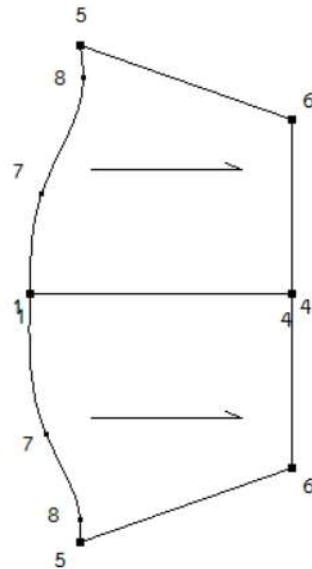
14. Select the top portion of the sleeve.

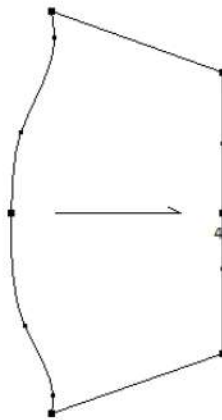15. Move the point 8 and modify the front armhole curve.

16. Select "Join pieces" tool.

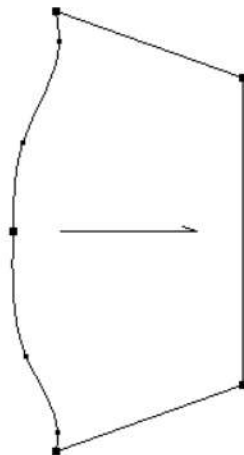17. Select the point 1 at the bottom portion and also click the point 1 of the top portion to join.



18. Pick the "Trace tool" and select all the lines of the top and bottom portion of the sleeve.

19. Pick the selection tool and click on the new sleeve part and drag.



20. Delete the point 4.

21. Open the 'T' Shirt Front and Back pattern.

22. Select the measuring tool and measure the armhole part of the Front and Back pattern.

23. Select the sleeve pattern and pick the move point tool.

24. Use the armhole curve points for adjusting according to the required front and back armhole measurements.

25. Join the front and back patterns at the shoulder line using "Join pieces" tool.
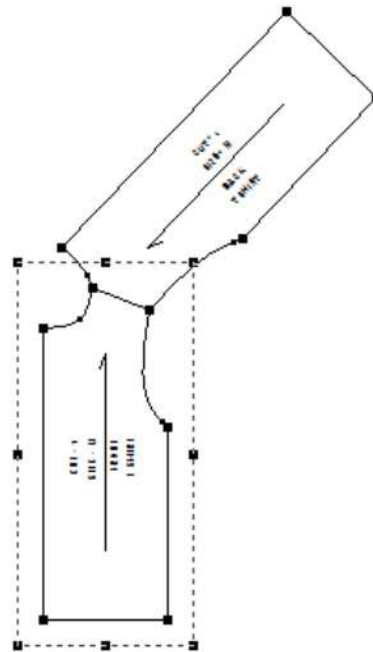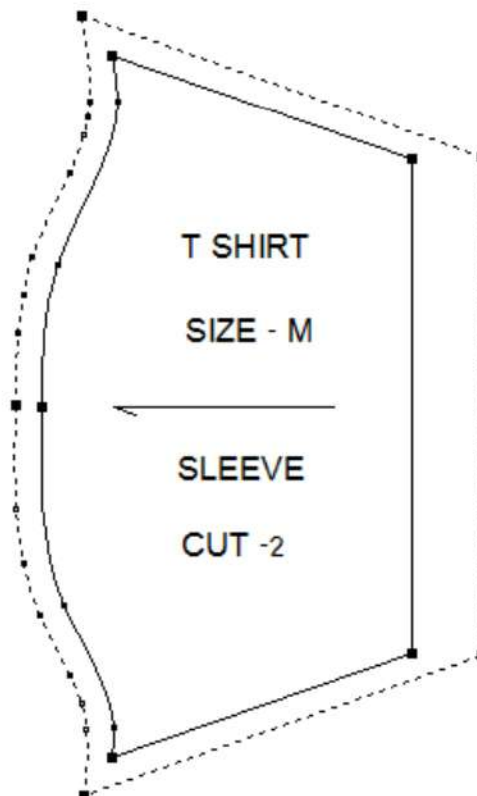


26. Select "walk tool" and apply to check the body and sleeve armhole measurements.

27. Select the text tool and type the pattern particulars.

T SHIRT

SIZE - M

SLEEVE

CUT -2
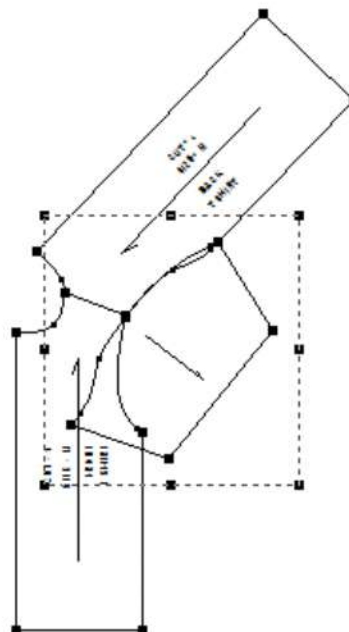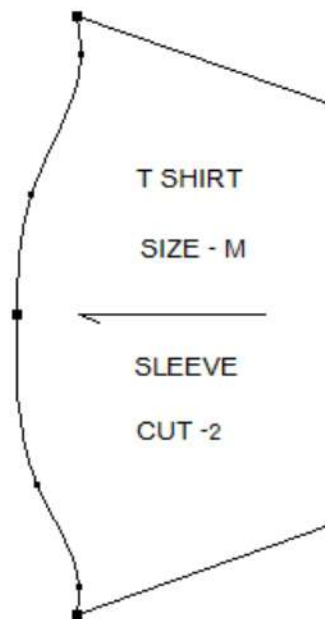
28. Add seam allowance 1.5 Cms. at the armhole and side seam for over lock
    and 4cms. at the bottom as hem allowance.

T SHIRT
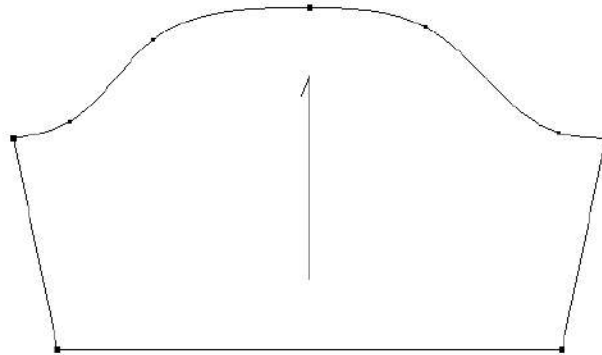
SIZE - M

SLEEVE

CUT -2

29. Save the file in the proper folder.
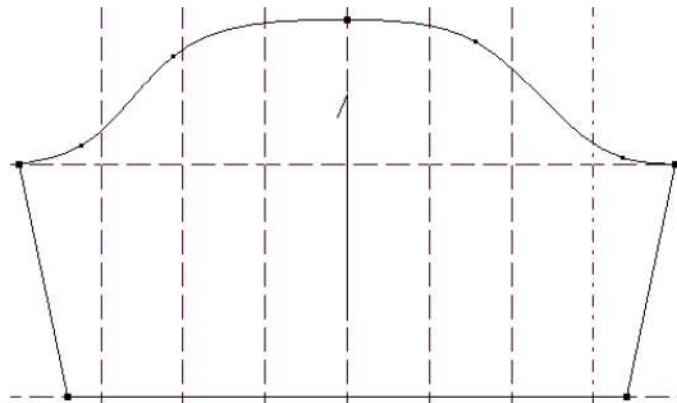
**EXPT. NO.9**

**Date:**

# PATTERN MANIPULATION – PLAIN SLEEVE TO PUFF SLEEVE

1. Select a Plain Sleeve pattern from the files.



2. Place the guide line on the sleeve centre and sleeve bottom. And with help of the Rulers, divide the sleeve width in to 8 equal parts and place the guide lines on them.



3. Select Draft tool and draw internal lines with the help of the guide lines. Delete all the vertical guide lines except the centre line.
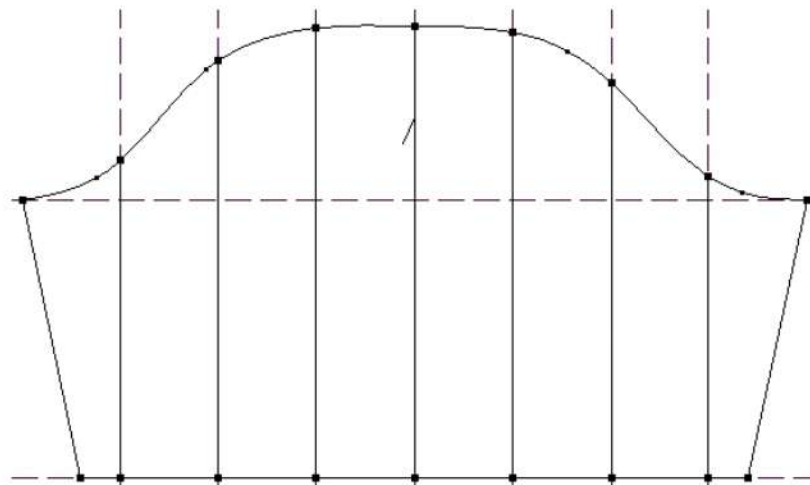
4. Select Cut along Internal Tool and cut the sleeve along the internal lines and separate with the help of the selection tool.
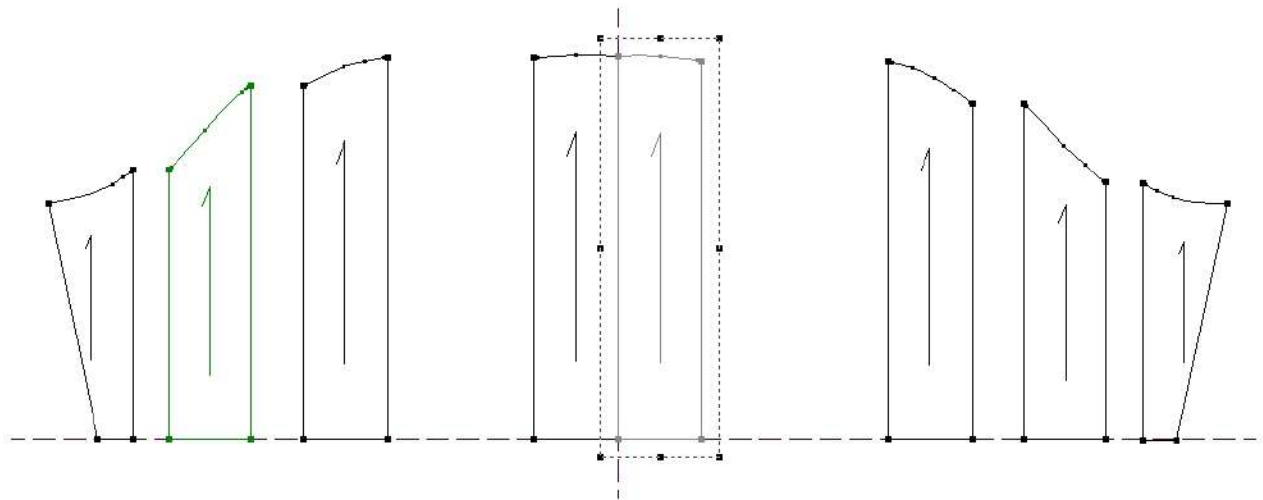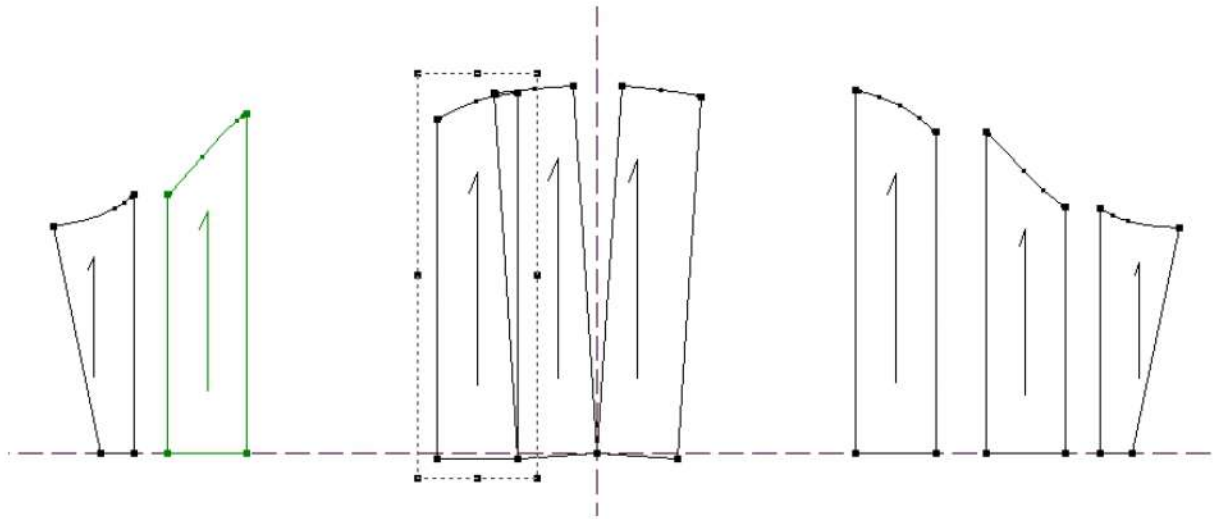


5. Select the Right side centre piece. Select Rotate Segment tool. Select the sleeve bottom centre point. Rotate the distance of 1.5 Cms.
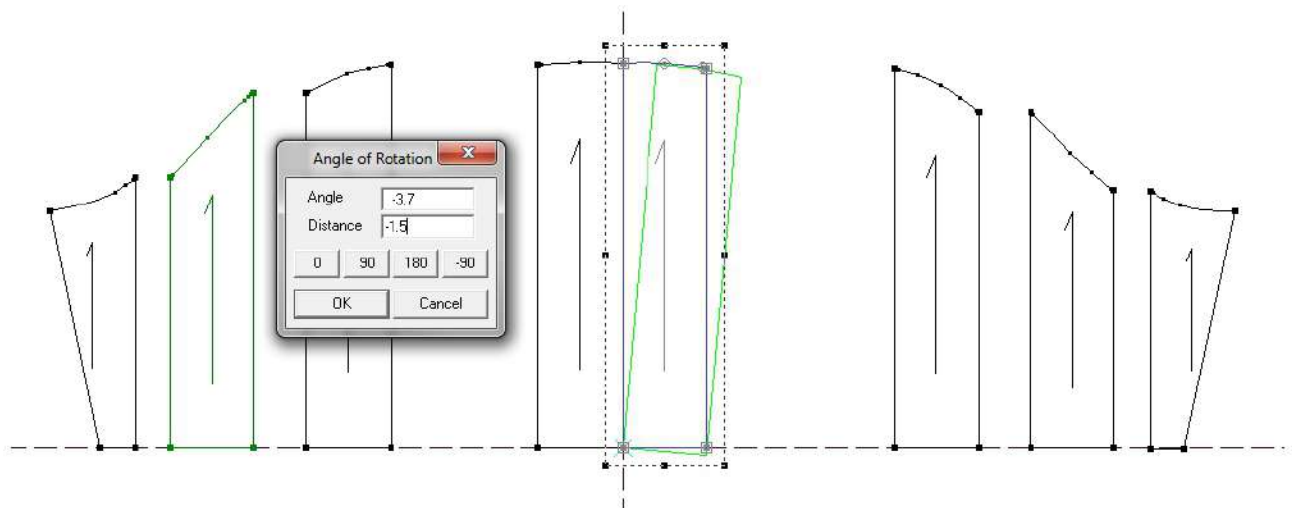


6. Now select the left side centre tool. Select Rotate Segment tool and rotate the piece to the distance of 1.5 Cms.
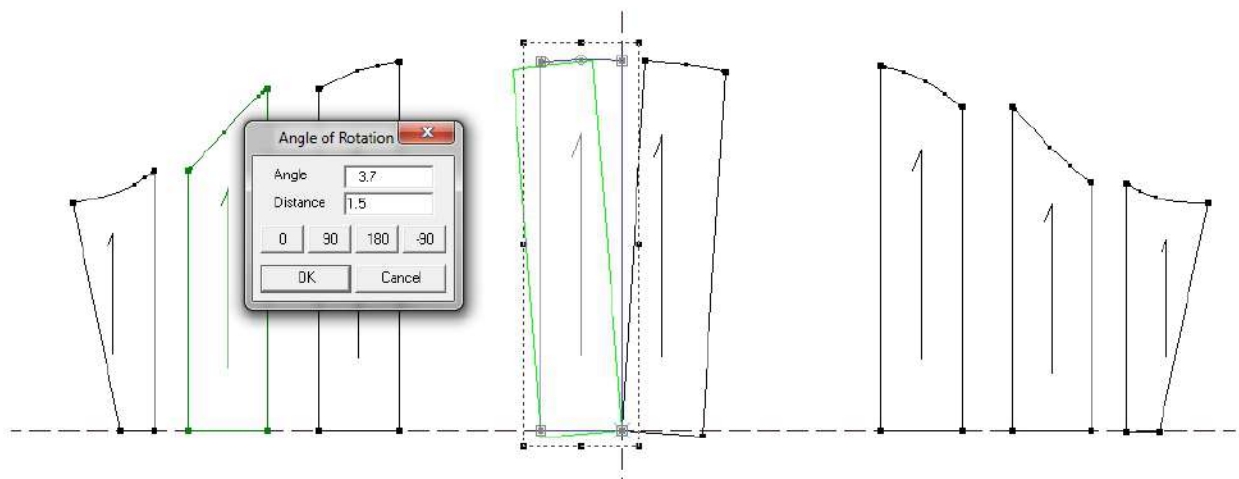
7. Select the next piece to the left side centre piece. Match their bottom points with the help of the move tool.

8. Select Rotate segment tool, rotate the piece and match the top corner points as shown in the figure.
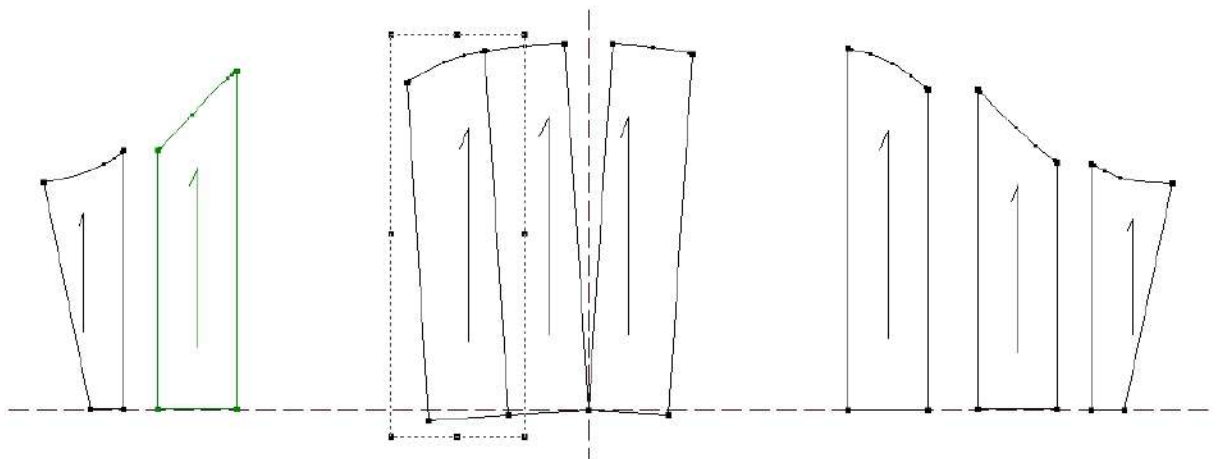
9. Again rotate the piece and enter the distance 3 Cms. in the dialog box.

Angle of Rotation

Angle   7.5

Distance   3

0   90   180   -90

OK   Cancel
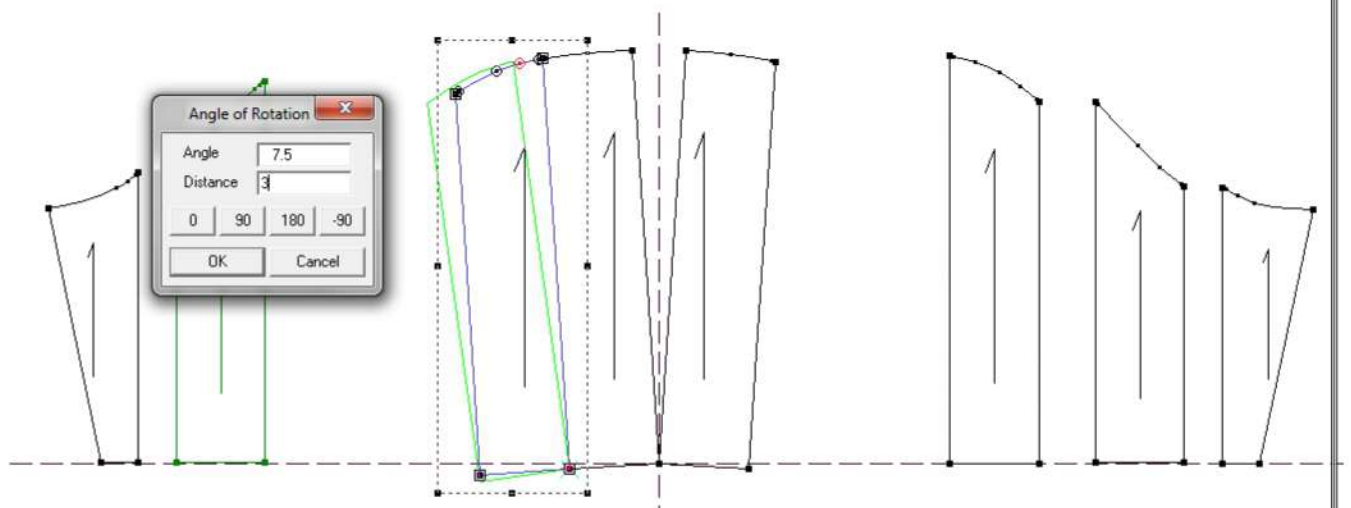
10. Click O.K.
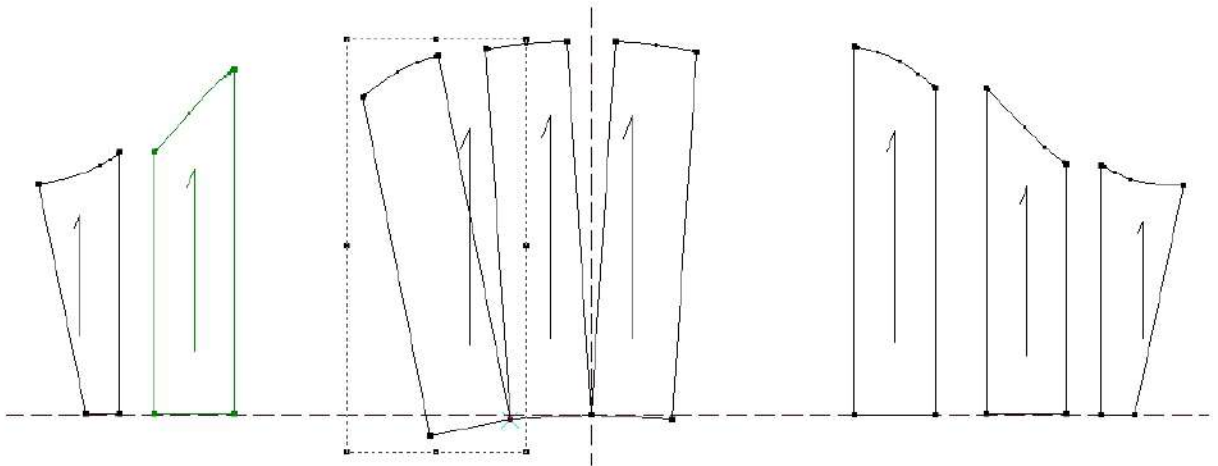


11. Then select the next left side piece and match the bottom corner points as shown in the figure.
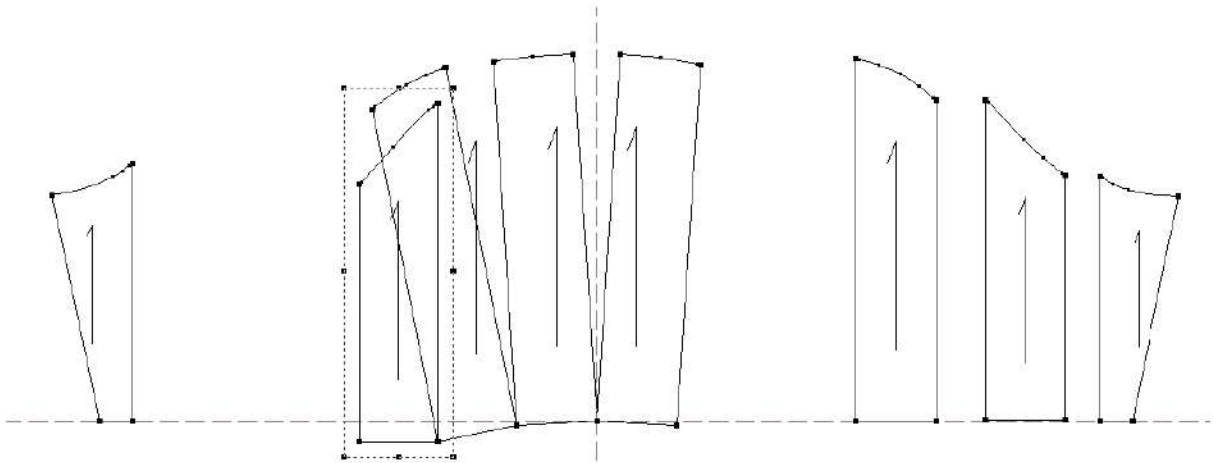


12. Match the top corner points by using rotate segment tool.
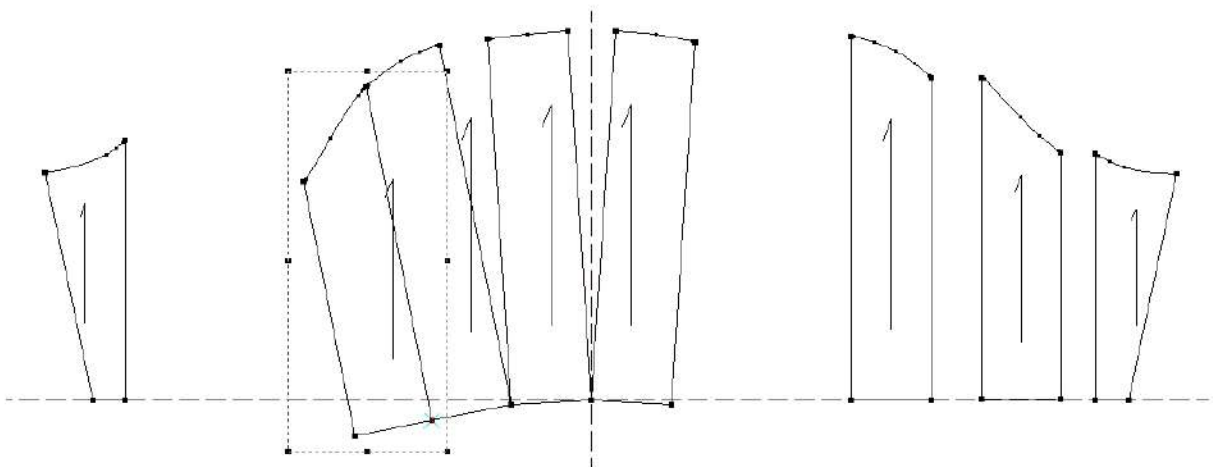
13. Then rotate the piece with the distance of 3 Cms.
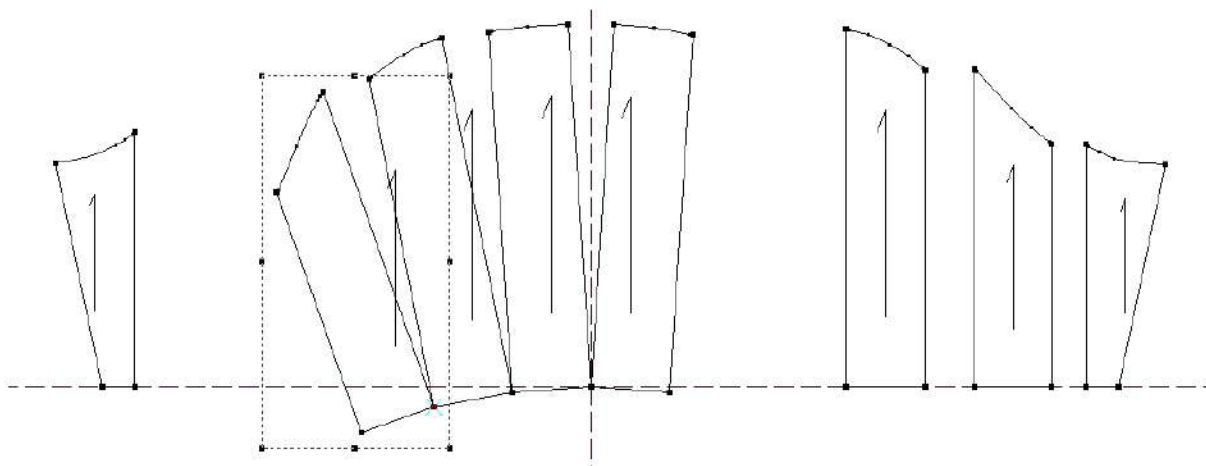
14. Do the same above procedure for the left side last piece also.
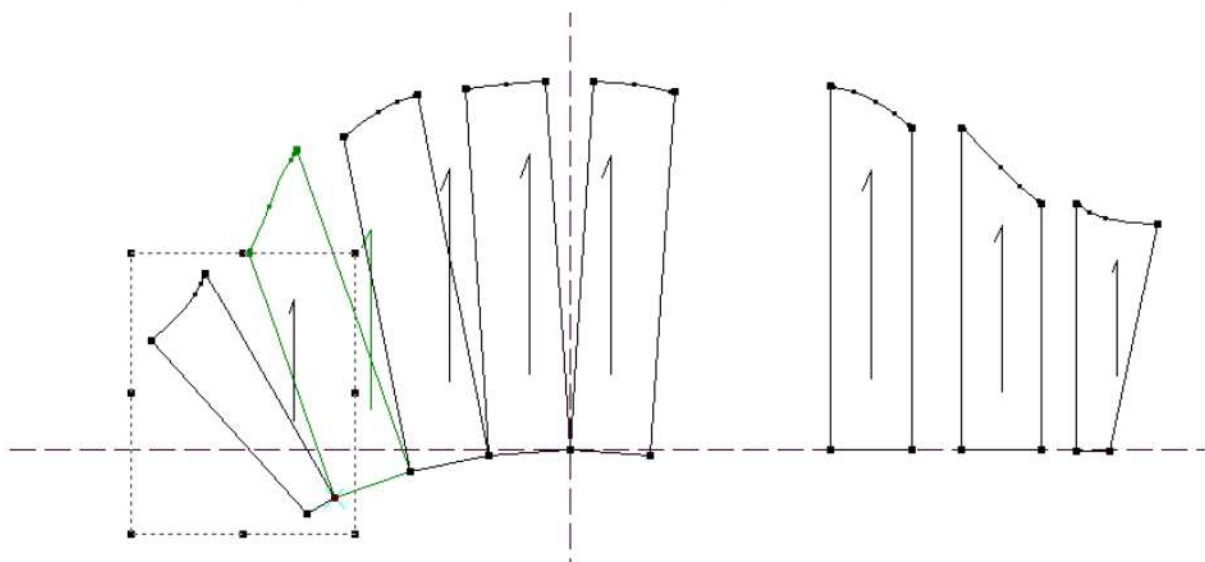
15. Repeat the procedure for the pieces at the right side also.
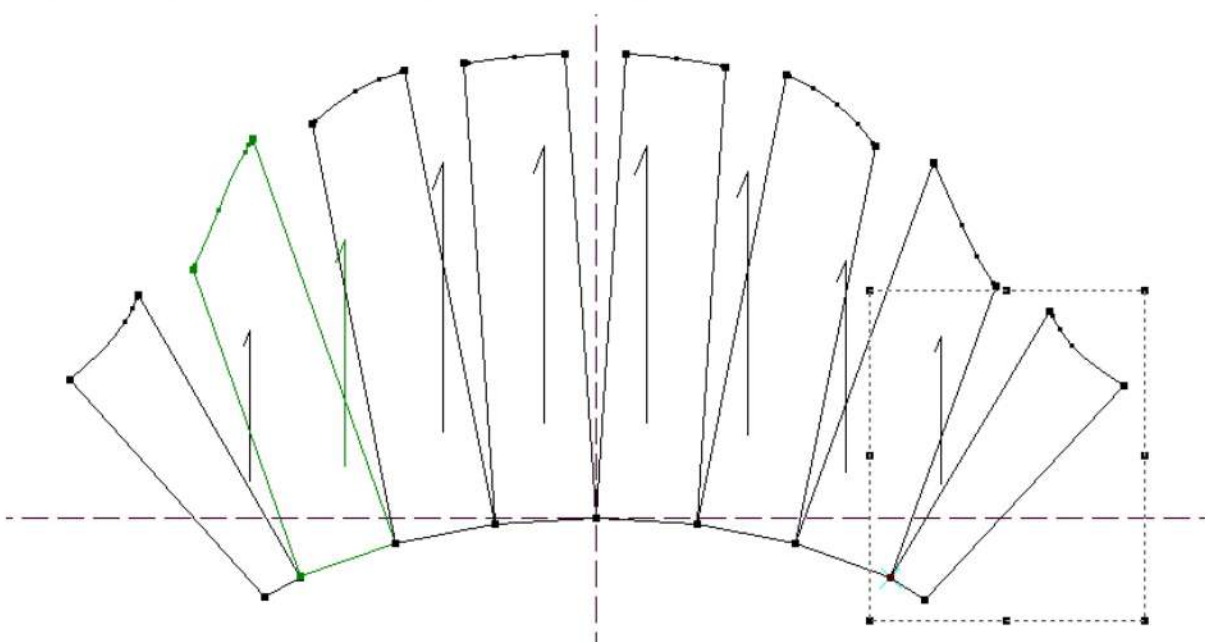
16. Select Draft Tool and copy the outline of the spread pieces in clockwise direction.
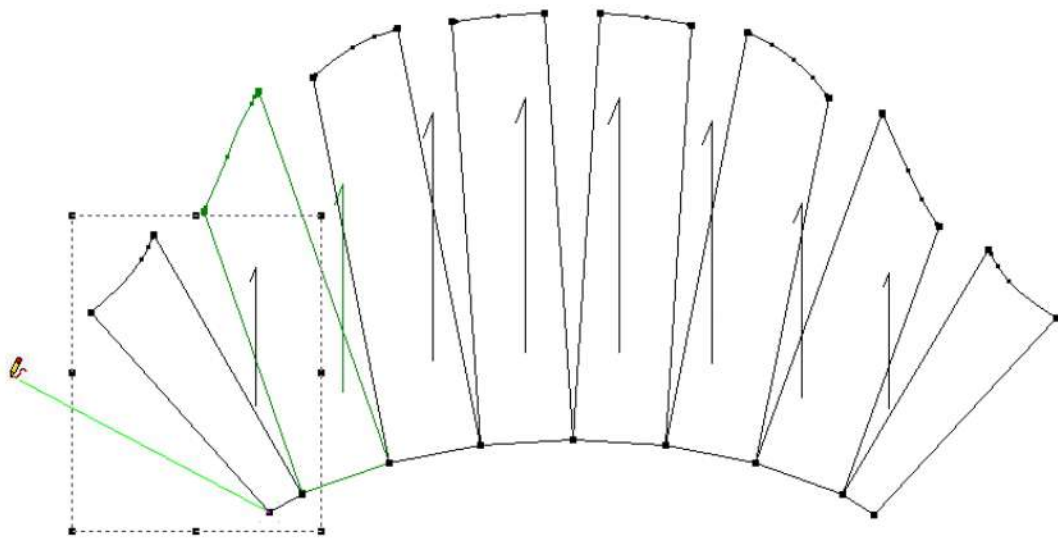


17. Complete the draft and finish.



Finished digitizing?

Yes    No    Cancel
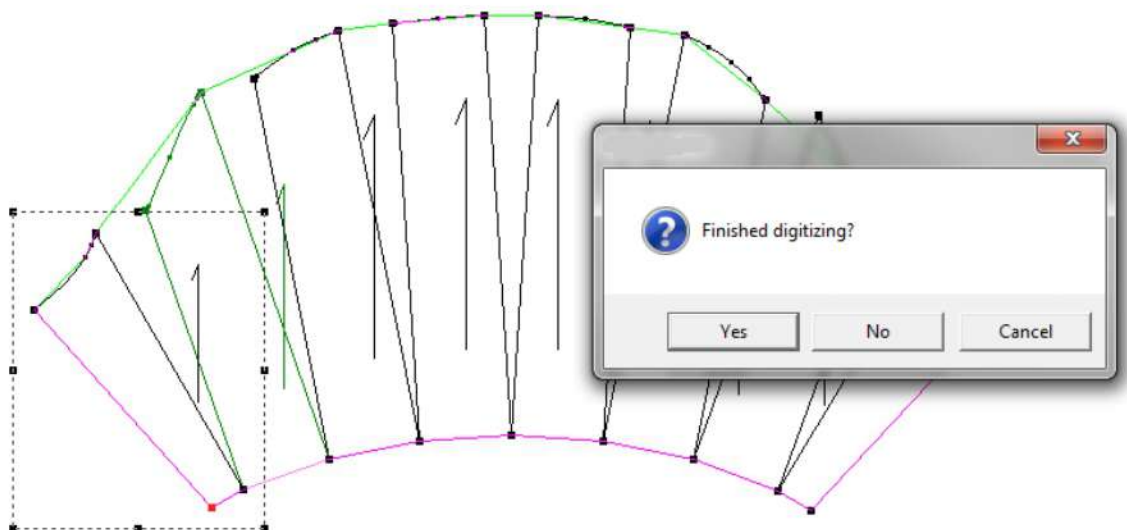
18. Click 'Yes' in the dialog box.
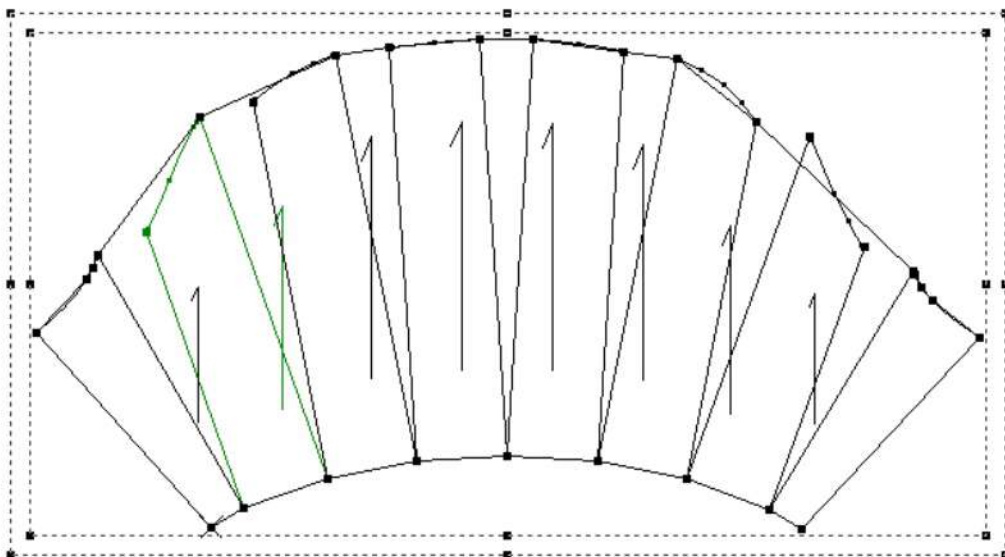
19. Separate the new draft pattern using move tool.
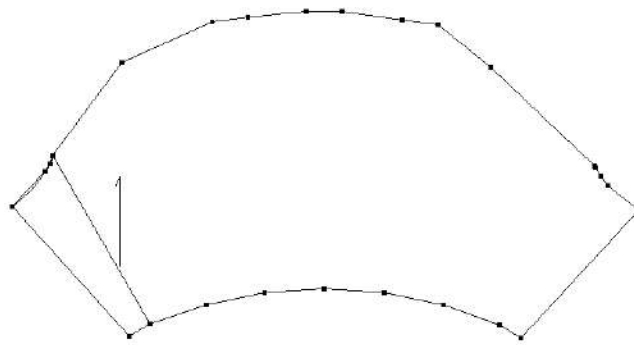


20. Using trace tool, trace the new pattern.
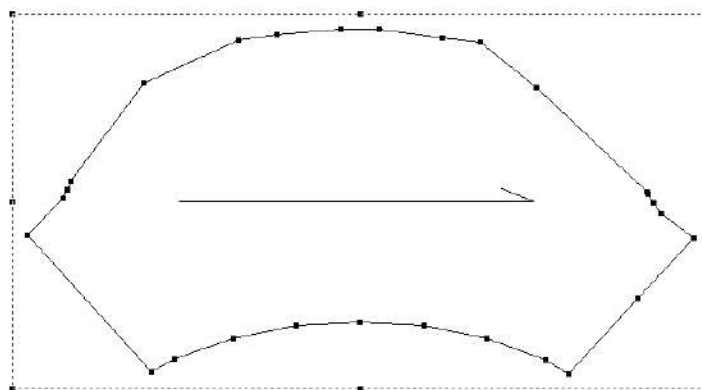


21. Select the non curve points into curve points. Delete the unwanted points if necessary.
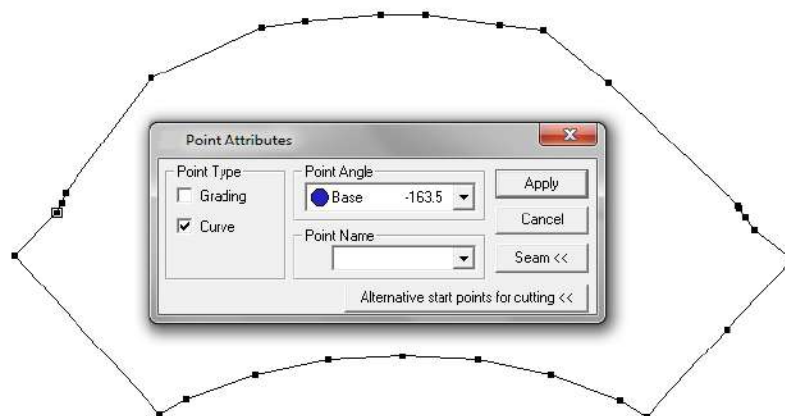


22. Using move point tool, correct the curves of the sleeve.
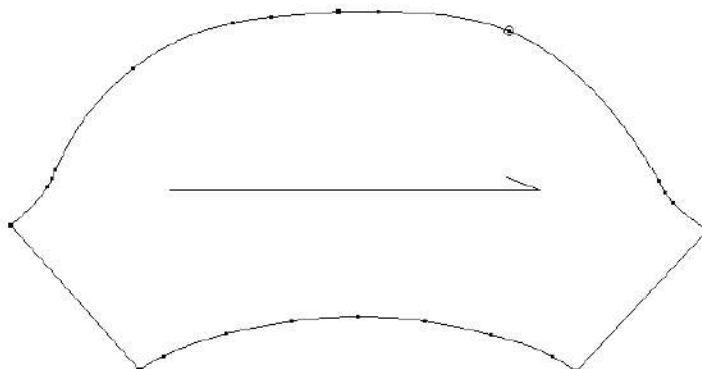
23. Using rotate tool rotate the piece and grainline.
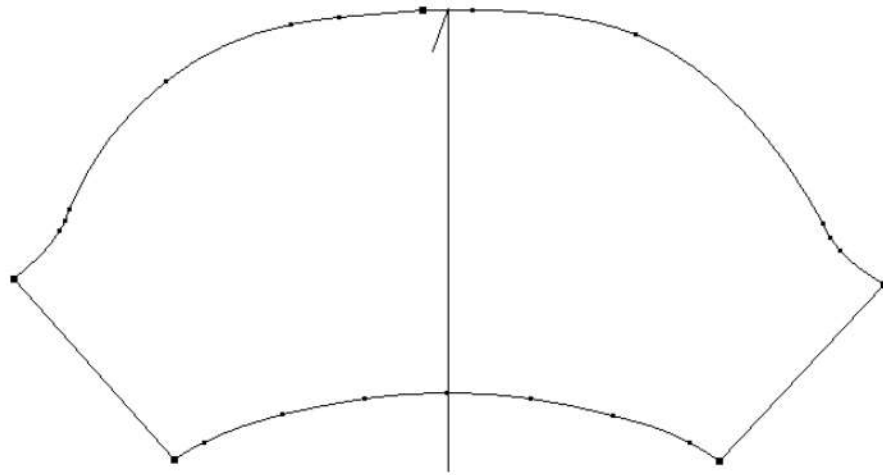
24. Select the base line in the pattern. Go to Piece menu, select base line and click new base line.
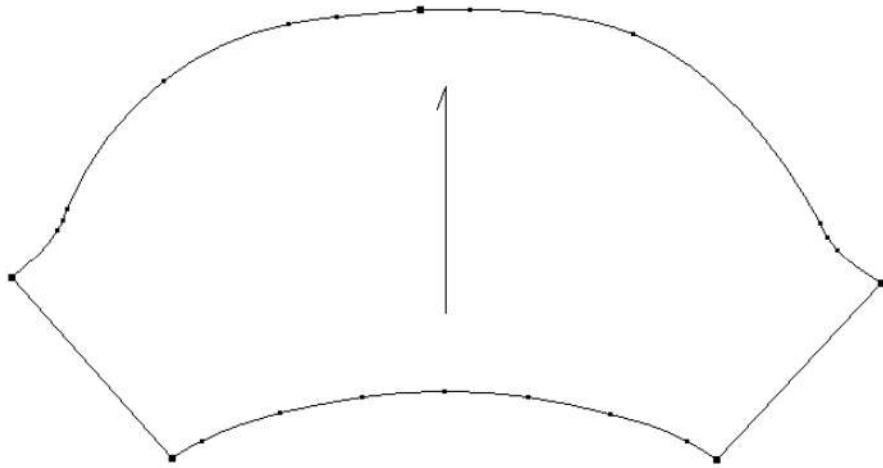
25. Type the pattern particulars.

Puff Sleeve

Size 'M'

Cut 2
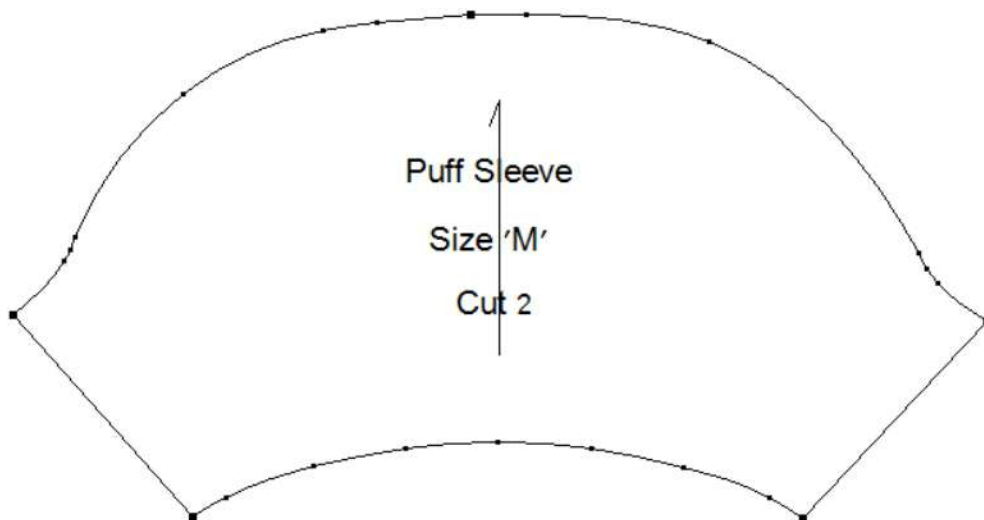
**EXPT. NO.10.**

**Date:**

# GRADING A PATTERN.

## A. Creating pattern for a Pocket.

1. Collect the required measurements and design of a Pointed Patch pocket for at least 4 no. of sizes.



'M' Size

12 Cms.

12 Cms.

3.5 Cms.
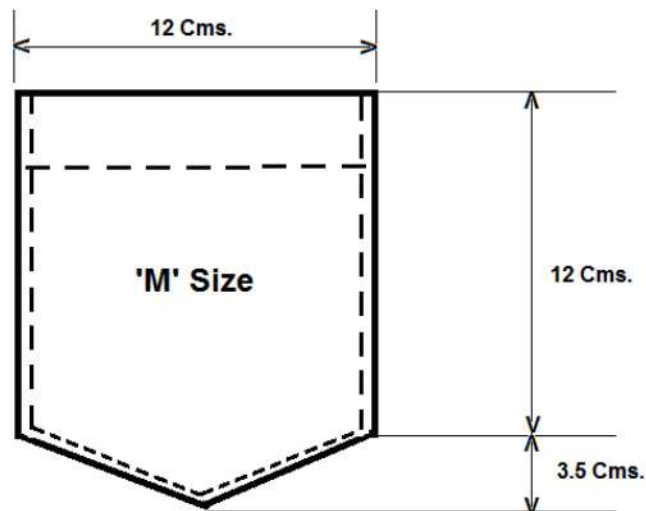
| Sl.No. | Name of the measurement (in Cms.) | Size 'S' | Size 'M' | Size 'L' | Size 'XL' |
|--------|-----------------------------------|----------|----------|----------|-----------|
| 1. | Pocket Length | 14.5 | 15.5 | 16.5 | 17.5 |
| 2. | Pocket Width | 11 | 12 | 13 | 14 |
| 3. | Pocket Hem | 3.5 | 3.5 | 3.5 | 3.5 |

2. Select the measurements for 'M' size.

3. Open the software and create a rectangle of 21 Cms. length (Pocket length + pocket hem (3.5 Cms.) + 2 Cms. for top and bottom seam allowance) and height of 14 Cms. (Pocket width + 2 cms. for two seams).

4. Number the pattern points as 1,2,3 & 4.



2        3

1        4
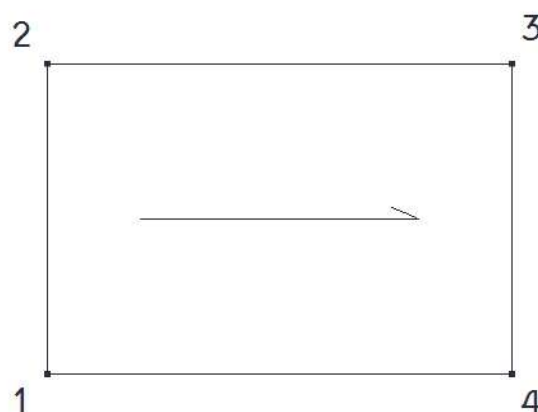
5. Mark points 5 & 6 with a distance of 3.5 Cms. from the points 3 & 4. Mark point 7 at the mid-level of 3 - 4.
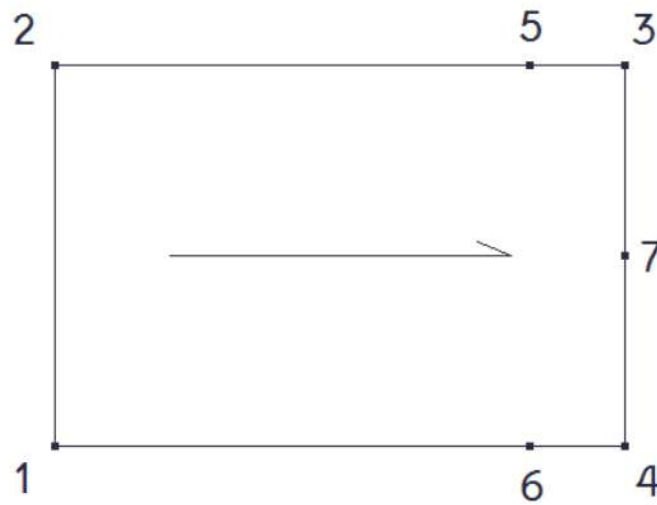


6. Delete the points 3 & 4.
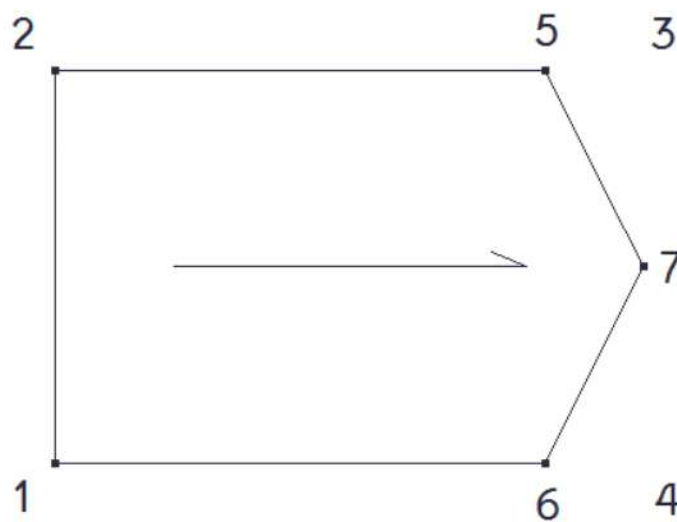


7. Select the text tool and type the required pattern particulars.
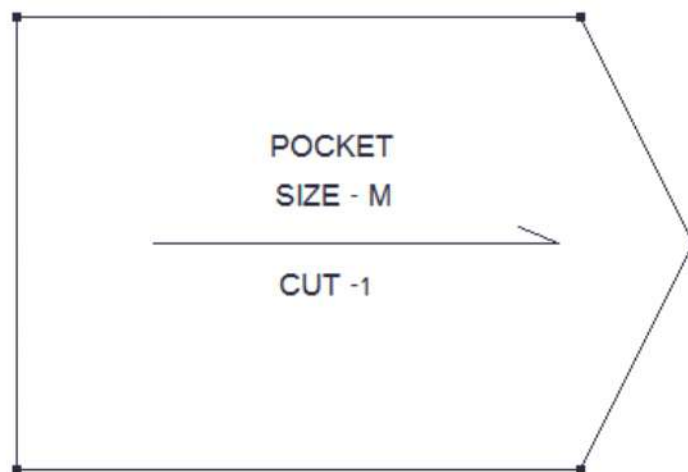


8. Save the file in the proper folder.

## B. Grading the pocket pattern.

1. Collect the required measurements and design of a Pointed Patch pocket for at least 4 no. of sizes.

2. Open the required pocket pattern.

3. Number the pattern corners as 1,2,3,4 & 5.
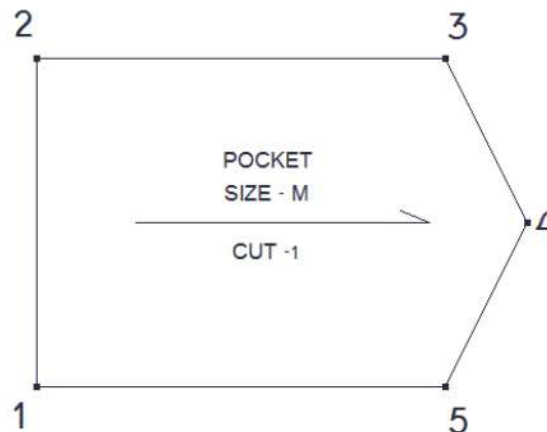


4. Click point 1 by selection tool.

5. Go to "Edit" menu and select "Point Attributes".

6. Select grading point to convert the normal point into grading point.

7. Repeat the above process for other points also.

8. Go to "Grading" menu.

9. Select 'sizes'.

10. Click "insert" in the box.

11. Insert the sizes 'L' and 'XL'.

12. Click "append" in the box.

13. Type the size 'S".

14. Click the colour box and select suitable colour for each size.
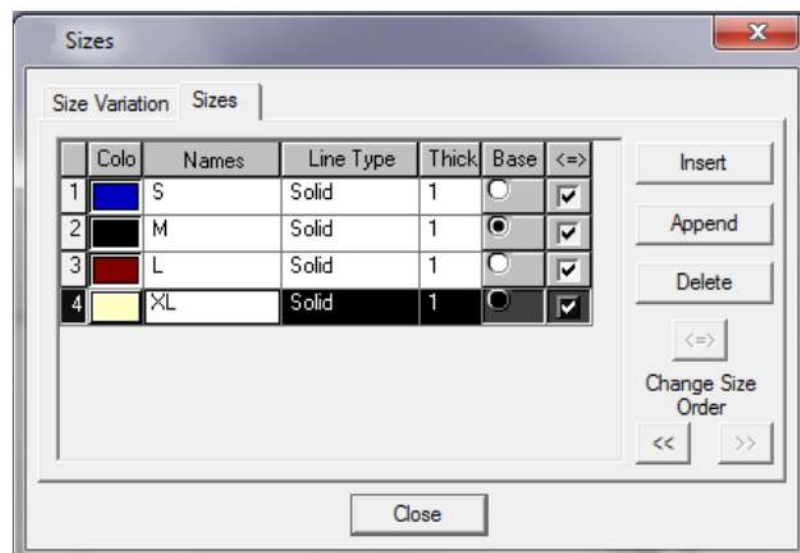
15. Click the close button.

---

**Note**: "Insert" is used to insert a new size before the selected size. 'Append" is used to insert a new size after the selected size.

---

16. Verify the grading axes for calculating the grading Increments.
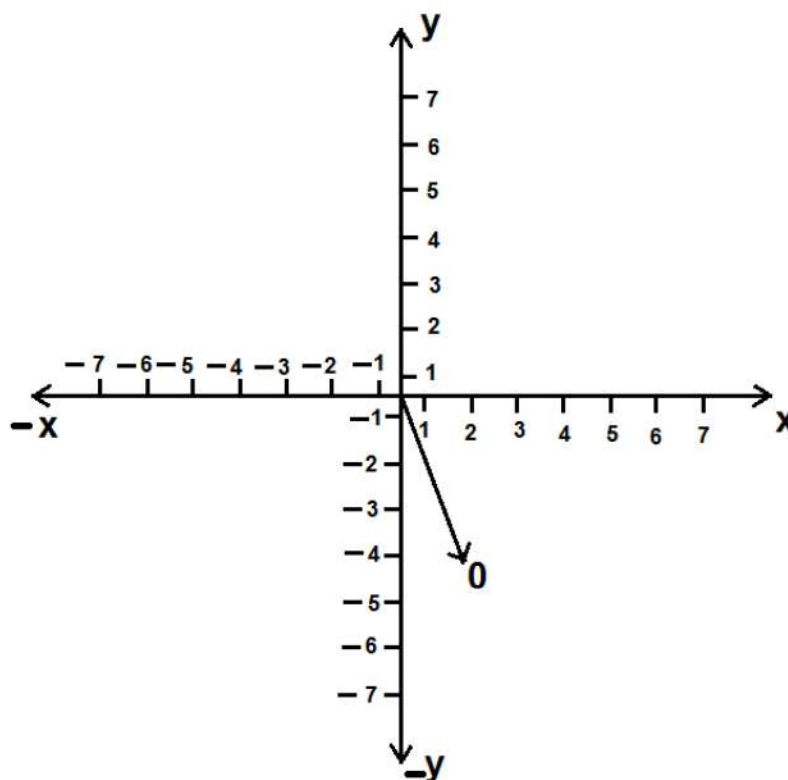


17. Prepare a Grading increment table for all the required sizes as follows.

| Sizes -----→ | M to S | | M to L | | L to XL | |
|---|---|---|---|---|---|---|
| Point | X | Y | X | Y | X | Y |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |

18. Calculate Grading increments for point 1 as follows.

---

**Grading Increment for Point 1.**

**From size M to L in –Y direction :** (Half Pocket width for 'L' minus half pocket width for 'M')

                                           = 6.5 Cms. minus 6 Cms.

                                           = 0.5 Cms.

For –Y direction              = -0.5 Cms.

**From size M to L in - X direction :** (Pocket Length for 'L' minus Pocket Length for 'M")

                                           = 16.5 Cms. minus 15.5 Cms.

                                           = 1 Cm.

For -X direction              = -1 Cm.

**From size L to XL in –Y direction :** (Half Pocket width for 'XL' minus half pocket width for 'L')

                                           = 7 Cms. minus 6.5 Cms.

                                           = 0.5 Cms.

For –Y direction              = -0.5 Cms.

**From size L to XL in - X direction :** (Pocket Length for 'L' minus Pocket Length for 'M")

                                           = 17.5 Cms. minus 16.5 Cms.

                                           = 1 Cm.

For -X direction               = -1 Cm.

**From size M to S in +Y direction :** (Half Pocket width for 'M' minus half pocket width for 'S')

                                           = 6 Cms. minus 5.5 Cms.

                                           = 0.5 Cms.

For +Y direction               = 0.5 Cms.

**From size M to L in + X direction :** (Pocket Length for 'M' minus Pocket Length for 'S")

                                           = 15.5 Cms. minus 14.5 Cms.

                                           = 1 Cm.

For +X direction               = +1 Cm.

---

19. Fill the respective X and Y increment values for point 1 of all sizes in the grading increment table.

20. Calculate the grading increments for other points as like the point 1.

21. Fill all the grading increment values for all the grading points of all the required sizes.

22. Complete the grading table as follows.

| Sizes -----→ | M to S | | M to L | | L to XL | |
|---|---|---|---|---|---|---|
| Point | X | Y | X | Y | X | Y |
| 1 | +1 | +0.5 | -1 | -0.5 | -1 | -0.5 |
| 2 | +1 | -0.5 | -1 | 0.5 | -1 | 0.5 |
| 3 | 0 | -0.5 | 0 | 0.5 | 0 | 0.5 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | +0.5 | 0 | -0.5 | 0 | -0.5 |

23. Go to "View" menu. Select "Grading". Select "Grading Table".

24. Click the point 1 with the help of the selection tool.

25. Give the grading increments for all the sizes, Observe the point 1 has been graded for the all the sizes.



26. Apply the grading increments for the point 2.

27. Apply the grading increments for the point 3. (There is no grading increment for point 4).
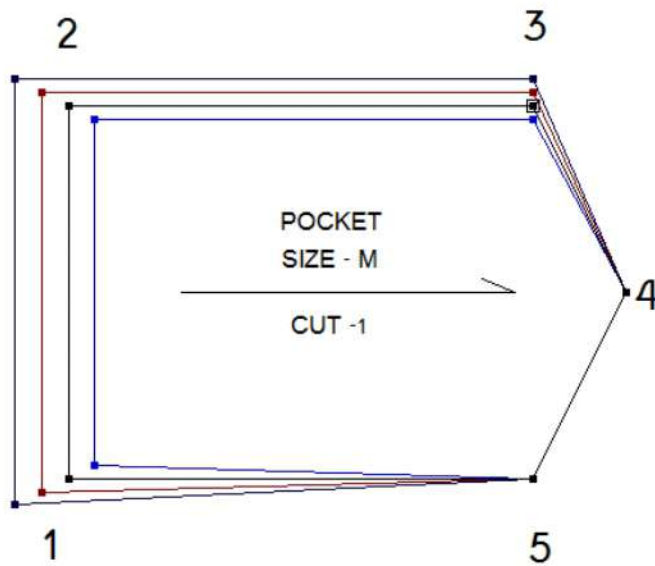


| Sizes | | dx | dy | dd | <=> |
|---|---|---|---|---|---|
| ✓ S | | 0 | -0.5 | 0.5 | ✓ |
| M | | 0 | 0 | 0 | ✓ |
| ✓ L | | 0 | 0.5 | 0.5 | ✓ |
| ✓ XL | | 0 | 0.5 | 0.5 | ✓ |

28. Apply the grading increments for the point 5.
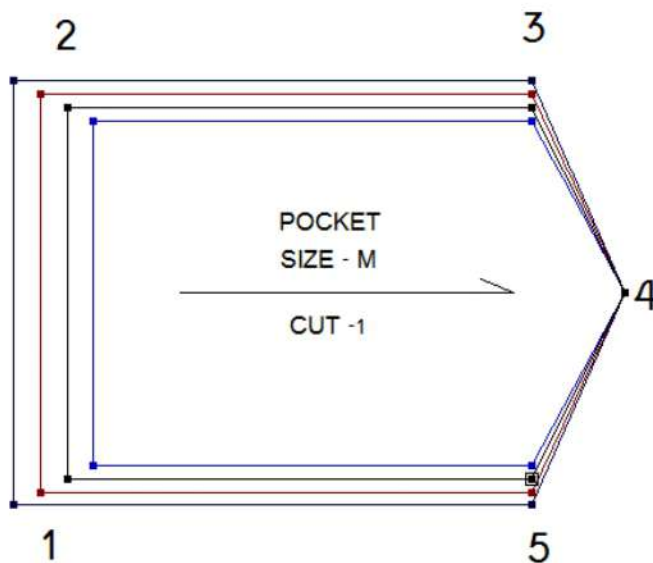


| Sizes | | dx | dy | dd | <=> |
|---|---|---|---|---|---|
| ✓ S | | 0 | 0.5 | 0.5 | ✓ |
| M | | 0 | 0 | 0 | ✓ |
| ✓ L | | 0 | -0.5 | 0.5 | ✓ |
| ✓ XL | | 0 | -0.5 | 0.5 | ✓ |

29. Save the file in the proper folder.

**EXPT. NO.11.**

**Date:**

# STACKING GRADED PATTERNS.
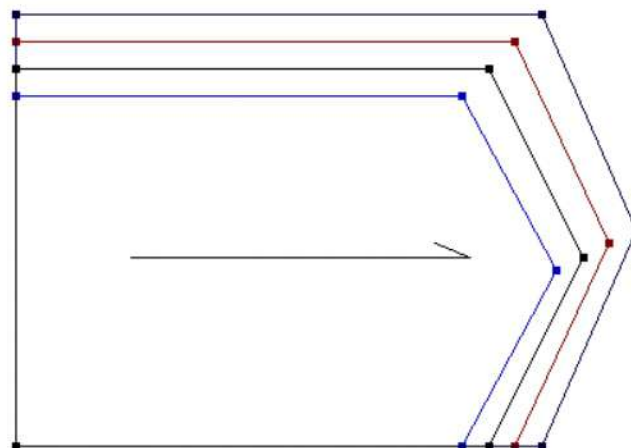
## A. Stacking point of graded patterns.

1. Open the graded pocket pattern file.

2. Select the point '1' on which to stack the nest.
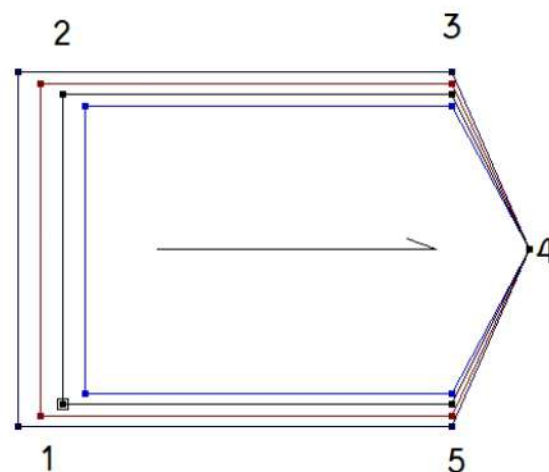


3. Go to Grading menu and Select Stack.

4. Choose stack point.

5. Select both Along 'X' Axis and Along 'Y' Axis in the stack point dialog box.
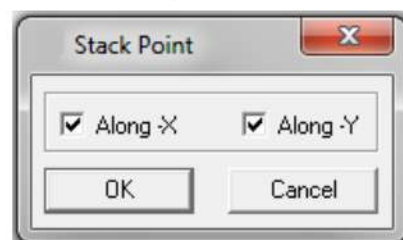


6. Click O.K.

**Note**: To return to the initial position, determine a point at which all of the grading points are positioned in the same location prior to using the **Stack** command. Re-stack the nest at this predetermined point to return to the initial position. If no common point is available, simply add a button mark (without grading) to the piece and use that point as the initial point. The extra button mark may be deleted later.

## B. Stacking along line of graded patterns.

1. Open the graded pocket pattern file.
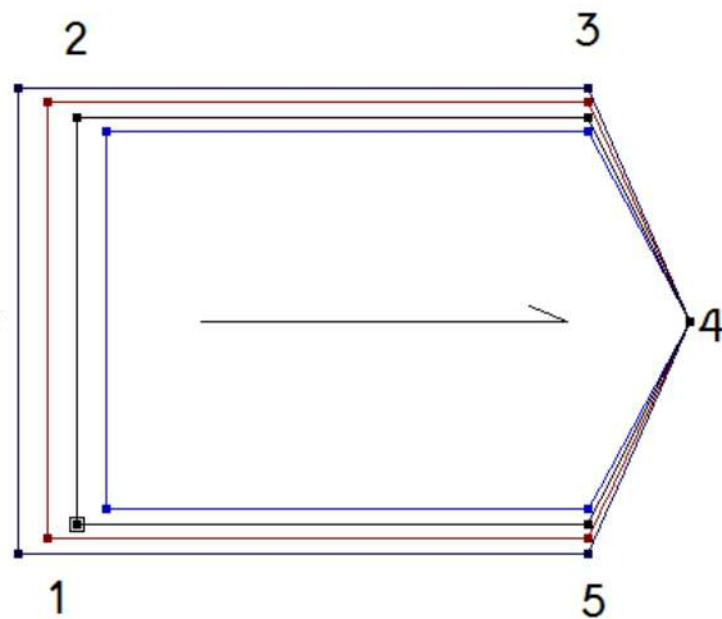2. Select the line 1-2 which will be nest line that all the sizes will be stack to.
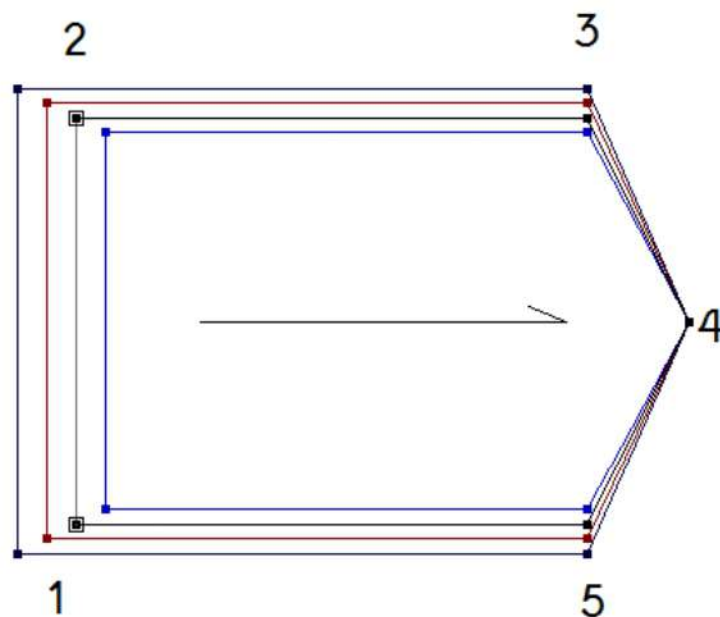


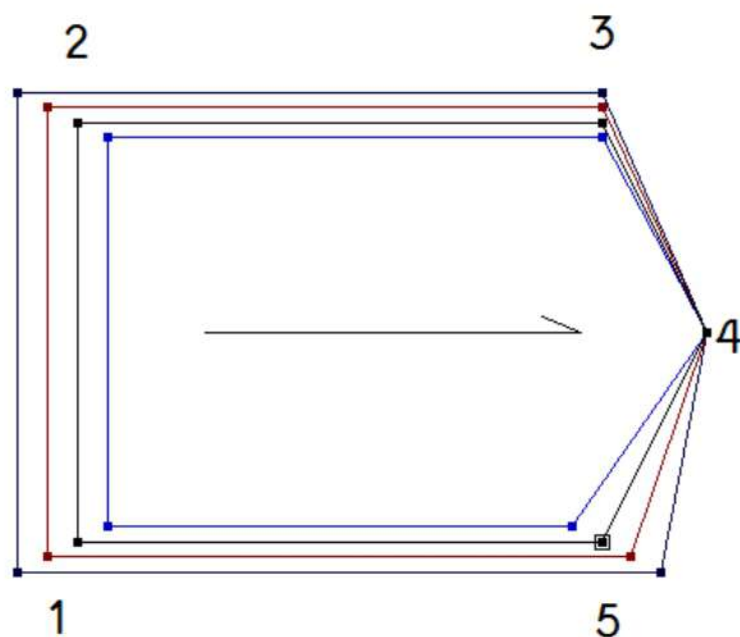3. Click Grading menu -> Stack, choose Stack along line, the grading will be stack along the line.
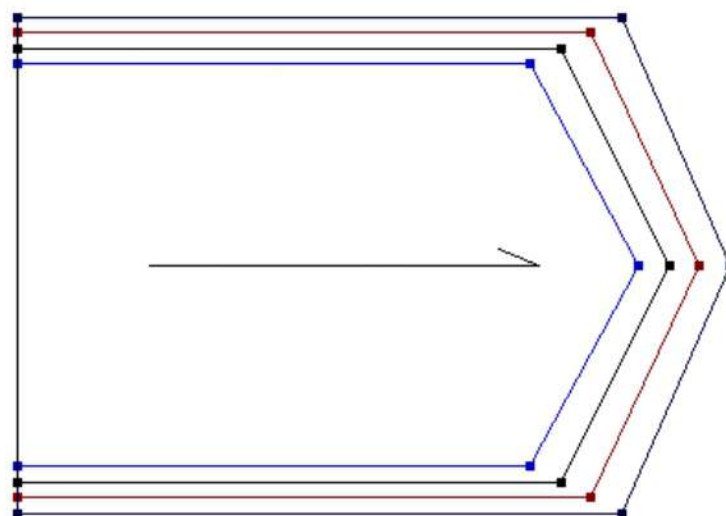
**EXPT. NO.12.**

**Date:**

## COPY AND PASTE GRADING

### A. Copy & Paste grading.

1. Open the graded pocket pattern file.
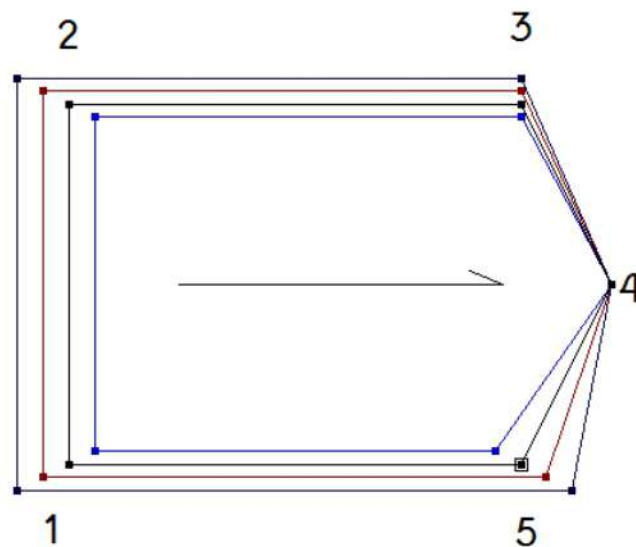2. Select point 1. Go to Grading menu and select "Copy Grading".



3. Select point 5.
4. Go to Grading menu and select "Paste Grading" and choose "Paste Grading".

## B. Paste 'X' Grading.

1. Open the graded pocket pattern file.
2. Select point 1. Go to Grading menu and select "Copy Grading".
3. Select point 5.
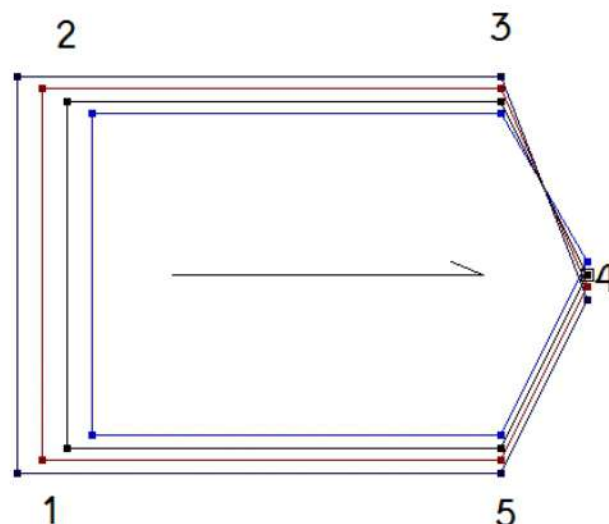4. Go to Grading menu and select "Paste Grading" and choose "Paste X Grading".



## C. Paste 'Y' Grading.

1. Open the graded pocket pattern file.
2. Select point 1. Go to Grading menu and select "Copy Grading".
3. Select point 4.
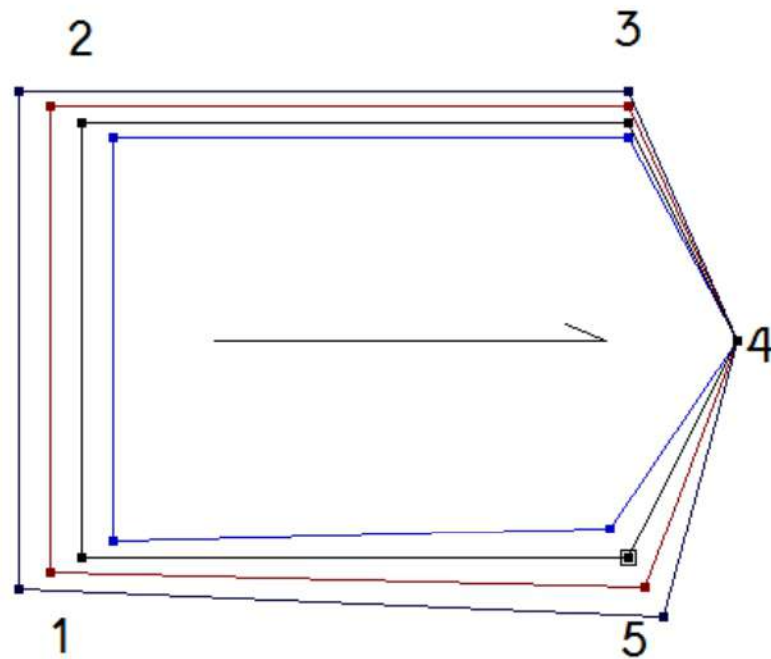4. Go to Grading menu and select "Paste Grading" and choose "Paste Y Grading".

## D. Paste around grading.

1. Open the graded pocket pattern file.
2. Select point 1. Go to Grading menu and select "Copy Grading".
3. Select point 5.
4. Go to Grading menu and select "Paste Grading" and choose "Paste around Grading".
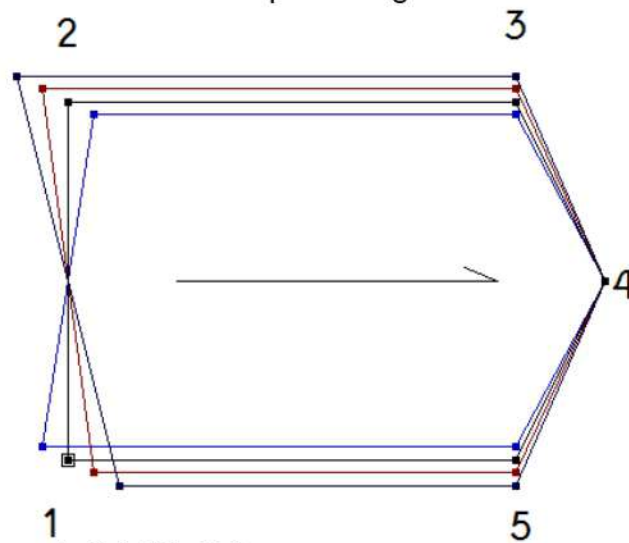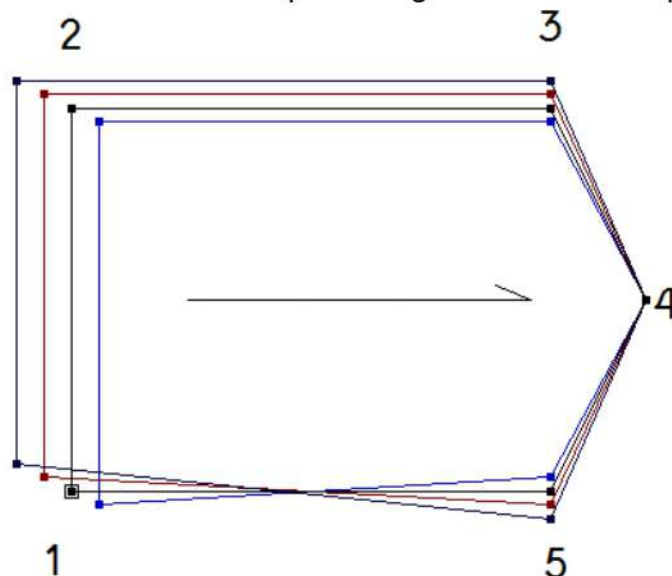
**EXPT. NO.13.**

**Date:**

# PRACTICE GRADING OPTIONS

## A. Flip 'X' & 'Y' Grading.

1. Open the graded pocket pattern file.
2. Select point 1.
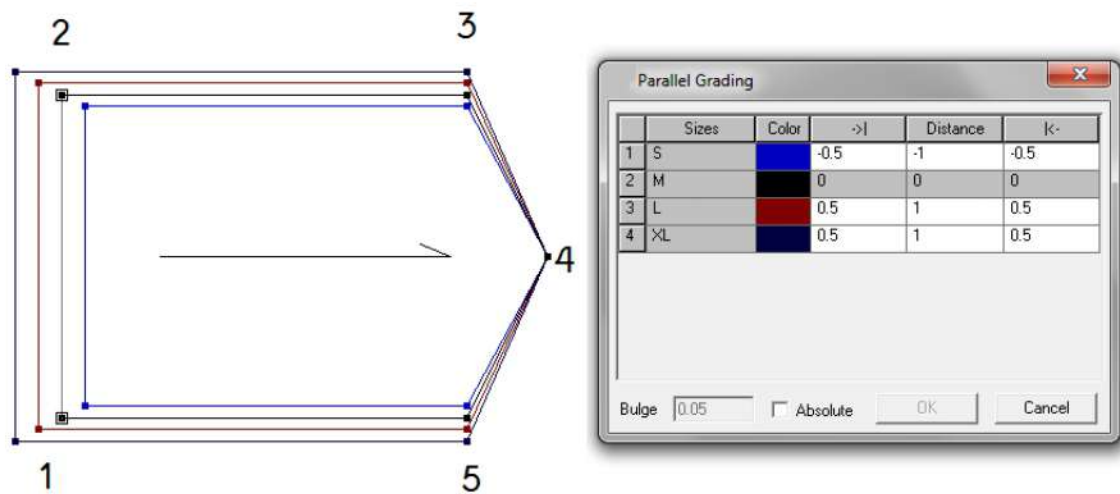3. Go to Grading menu and select "Flip Grading" and choose "Flip X Grading".



4. Go to Edit menu and click "Undo".
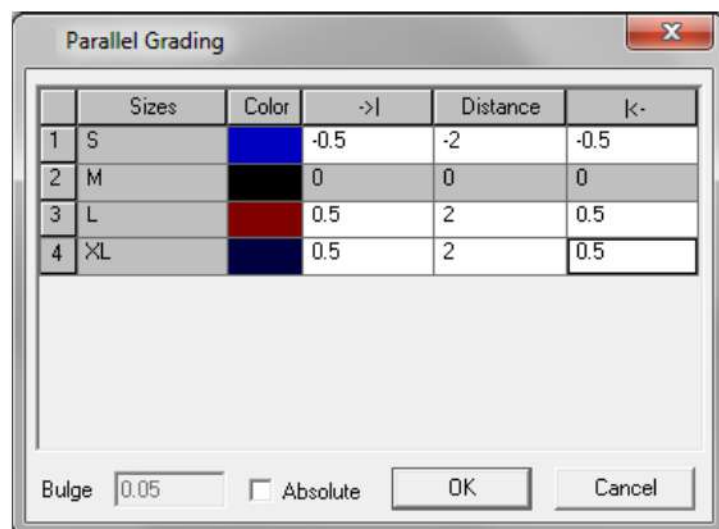5. Go to Grading menu and select "Flip Grading" and choose "Flip Y Grading".



## B. Apply parallel Grading.

1. Open the graded pocket pattern file.
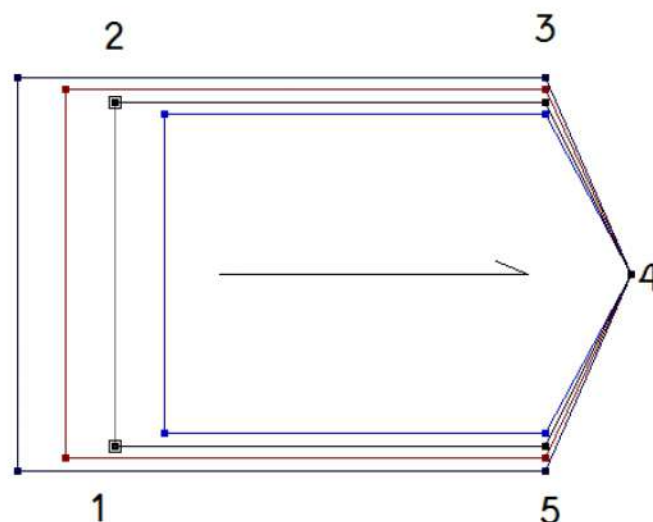2. Select the line 1-2 with selection tool.

3. Go to Grading menu, select grade and choose parallel grading to get the "parallel grading" box.



| | Sizes | Color | ->| | Distance | k- |
|---|---|---|---|---|---|
| 1 | S | | -0.5 | -1 | -0.5 |
| 2 | M | | 0 | 0 | 0 |
| 3 | L | | 0.5 | 1 | 0.5 |
| 4 | XL | | 0.5 | 1 | 0.5 |

Bulge 0.05   Absolute   OK   Cancel

4. Change the all the values of distance from 1 to 2.



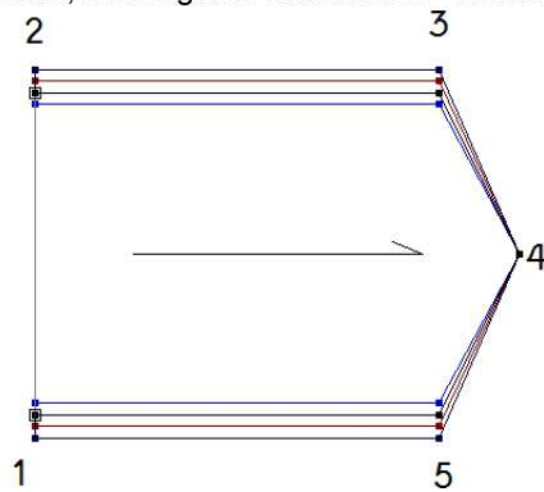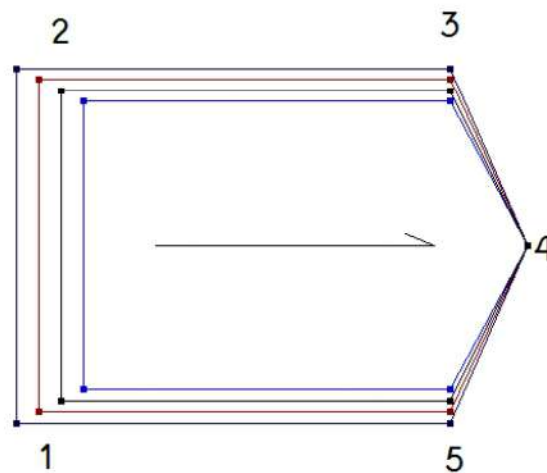| | Sizes | Color | ->| | Distance | k- |
|---|---|---|---|---|---|
| 1 | S | | -0.5 | -2 | -0.5 |
| 2 | M | | 0 | 0 | 0 |
| 3 | L | | 0.5 | 2 | 0.5 |
| 4 | XL | | 0.5 | 2 | 0.5 |

Bulge 0.05   Absolute   OK   Cancel

5. Click O.K.

## C. Grading along line.

1. Open the graded pocket pattern file.
2. Select the line 1-2 using selection tool.
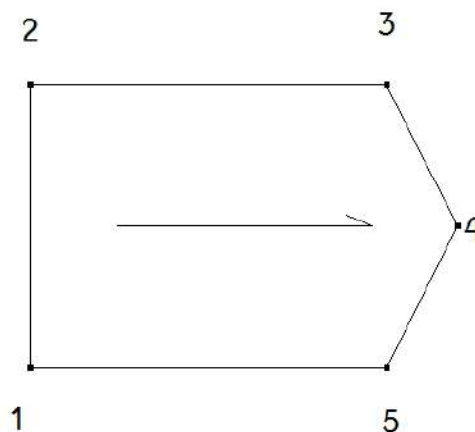3. Go to Grading menu, select grade and choose "Grade along line".



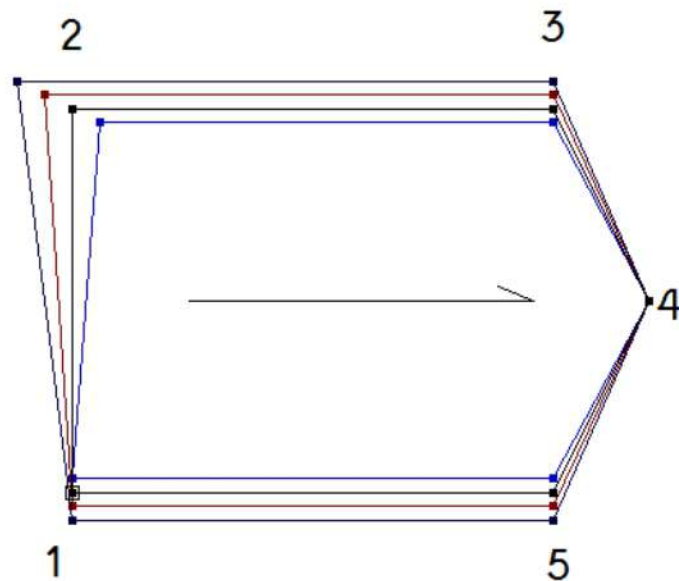## D. Apply "Zero All", Zero X" and "Zero Y" Grading.

1. Open the graded pocket pattern file.



2. Go to Grading menu, select Zero Grading and choose "Zero All Grading".

3. Go to Edit menu and select "Undo".
4. Select the pattern by select the point 1.
5. Go to Grading menu, select Zero Grading and choose "Zero X Grading".



6. Go to Edit menu and select "Undo".
7. Select the pattern by select the point 1.
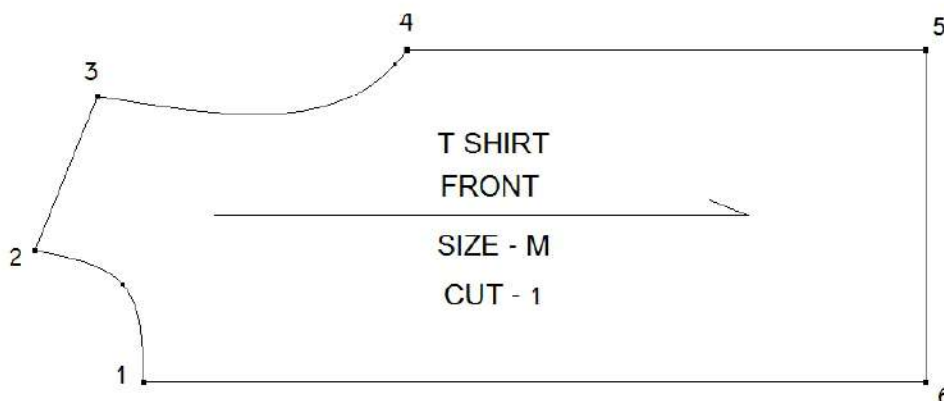8. Go to Grading menu, select Zero Grading and choose "Zero Y Grading".
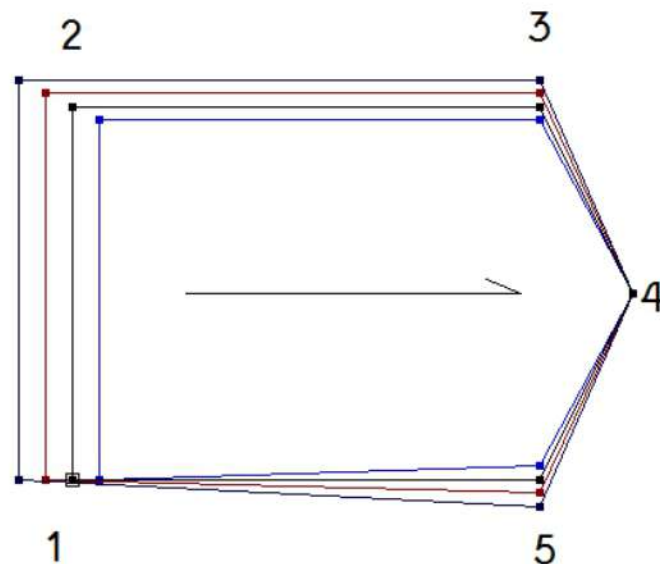
## EXPT. NO.14.

**Date:**

# GRADING A 'T' SHIRT.

## A. Grading a 'T' Shirt Front Pattern.

1. Collect the required measurement chart of a 'T' Shirt for at least 4 no. of sizes. Open the required 'T' Shirt Front Pattern.
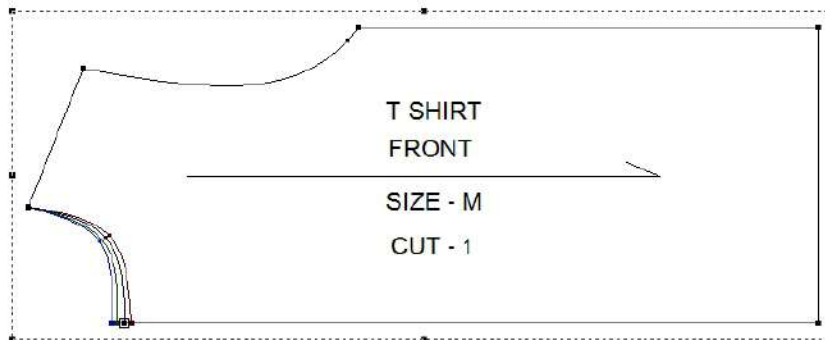2. Number the pattern corners as 1,2,3,4,5 & 6.



3. Click point 1 by selection tool.
4. Go to "Edit" menu and select "Point Attributes".
5. Select grading point to convert the normal point into grading point.
6. Repeat the above process for other points also.
7. Go to "Grading" menu.
8. Select 'sizes'.
9. Click "insert" in the box.
10. Insert the sizes 'L' and 'XL'.
11. Click "append" in the box.
12. Type the size 'S'.
13. Click the colour box and select suitable colour for each size.
14. Click the close button.
15. Goto "View" menu. Select "Grading". Select "Grading Table".
16. Calculate the grading increments for each point and prepare the grading increment table.

| Sizes -----→ | M to S | | M to L | | L to XL | |
|---|---|---|---|---|---|---|
| Point | X | Y | X | Y | X | Y |
| 1 | +0.5 | 0 | -0.5 | 0 | -0.5 | 0 |
| 2 | +1 | -0.5 | -1 | +0.5 | -1 | +0.5 |
| 3 | +1 | -1 | -1 | +1 | -1 | +1 |
| 4 | 0 | -1 | 0 | +1 | 0 | +1 |
| 5 | -1 | -1 | +1 | +1 | +1 | +1 |
| 6 | -1 | 0 | +1 | 0 | +1 | 0 |

17. Click the point 1 with the help of the selection tool.
18. Mention the grading increments for all the sizes, observe the point 1 has been graded for the all the sizes.
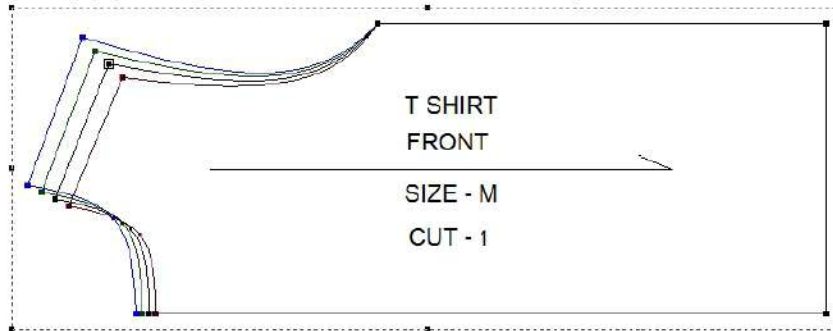
T SHIRT

FRONT

SIZE - M

CUT - 1

| Sizes | | dx | dy | dd | <=> |
|---|---|---|---|---|---|
| ☑ S | | 0.5 | 0 | 0.5 | ☑ |
| M | | 0 | 0 | 0 | ☑ |
| ☑ L | | -0.5 | 0 | 0.5 | ☑ |
| ☑ XL | | -0.5 | 0 | 0.5 | ☑ |

19. Apply the grading increments for the point 2.

T SHIRT

FRONT

SIZE - M

CUT - 1
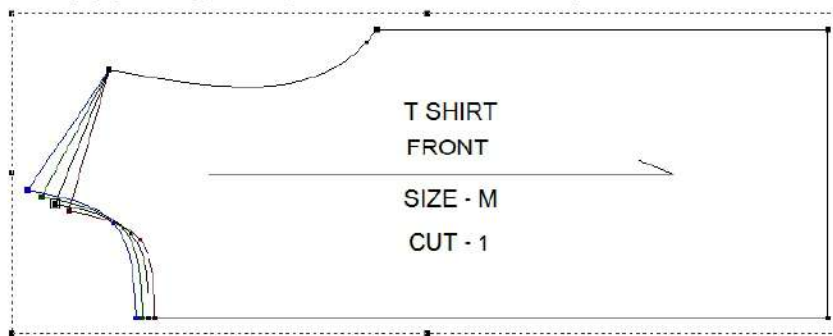
| Sizes | | dx | dy | dd | <=> |
|---|---|---|---|---|---|
| ☑ S | | 1 | -0.5 | 1.12 | ☑ |
| M | | 0 | 0 | 0 | ☑ |
| ☑ L | | -1 | 0.5 | 1.12 | ☑ |
| ☑ XL | | -1 | 0.5 | 1.12 | ☑ |

20. Apply the grading increments for the point 3.

T SHIRT

FRONT

SIZE - M

CUT - 1

| Sizes | | dx | dy | dd | <=> |
|---|---|---|---|---|---|
| ☑ S | | 1 | -1 | 1.41 | ☑ |
| M | | 0 | 0 | 0 | ☑ |
| ☑ L | | -1 | 1 | 1.41 | ☑ |
| ☑ XL | | -1 | 1 | 1.41 | ☑ |

21. Apply the grading increments for the point 4.

T SHIRT

FRONT

SIZE - M

CUT - 1
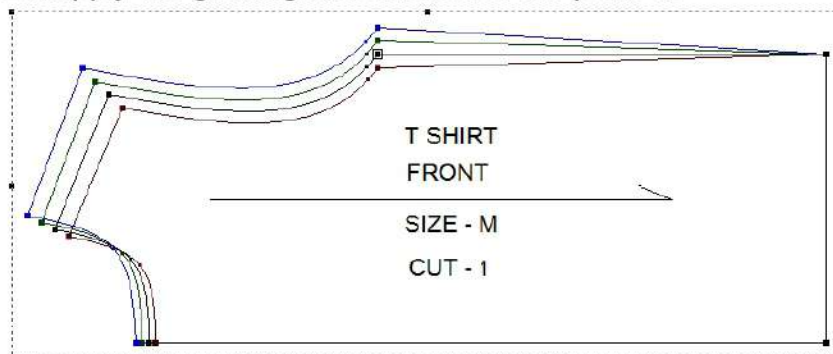
| Sizes | | dx | dy | dd | <=> |
|---|---|---|---|---|---|
| ☑ S | | 0 | -1 | 1 | ☑ |
| M | | 0 | 0 | 0 | ☑ |
| ☑ L | | 0 | 1 | 1 | ☑ |
| ☑ XL | | 0 | 1 | 1 | ☑ |

22. Apply the grading increments for the point 5.
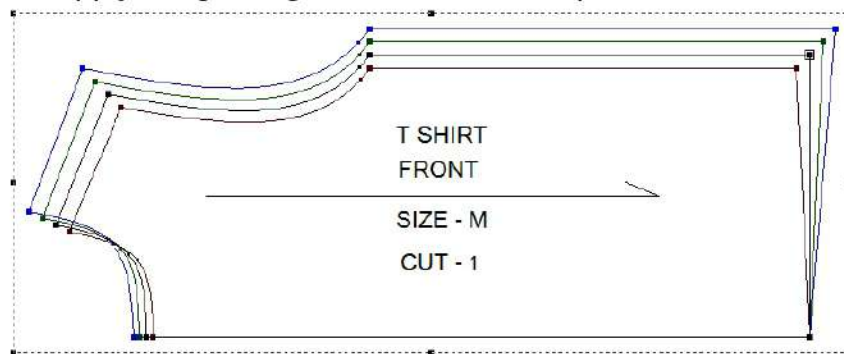


| Sizes | | dx | dy | dd | <=> |
|---|---|---|---|---|---|
| ☑ S | | -1 | -1 | 1.41 | ☑ |
| M | | 0 | 0 | 0 | ☑ |
| ☑ L | | 1 | 1 | 1.41 | ☑ |
| ☑ XL | | 1 | 1 | 1.41 | ☑ |

23. Apply the grading increments for the point 6.
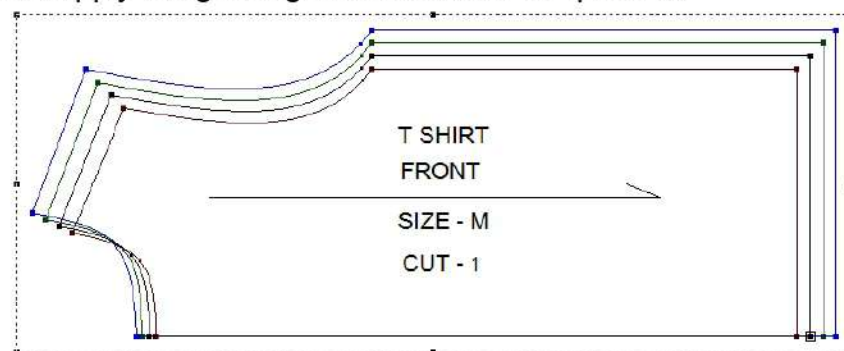


| Sizes | | dx | dy | dd | <=> |
|---|---|---|---|---|---|
| ☑ S | | -1 | 0 | 1 | ☑ |
| M | | 0 | 0 | 0 | ☑ |
| ☑ L | | 1 | 0 | 1 | ☑ |
| ☑ XL | | 1 | 0 | 1 | ☑ |

24. Save the file in the proper folder.

## B. Grading a 'T' Shirt Back Pattern.

1. Open the required 'T' Shirt Back Pattern.
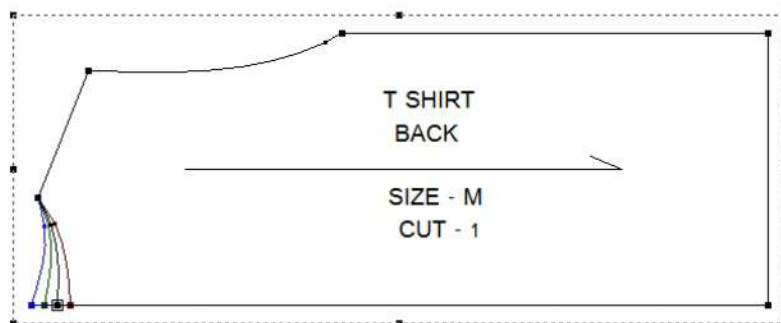2. Number the pattern corners as 1,2,3,4,5 & 6.
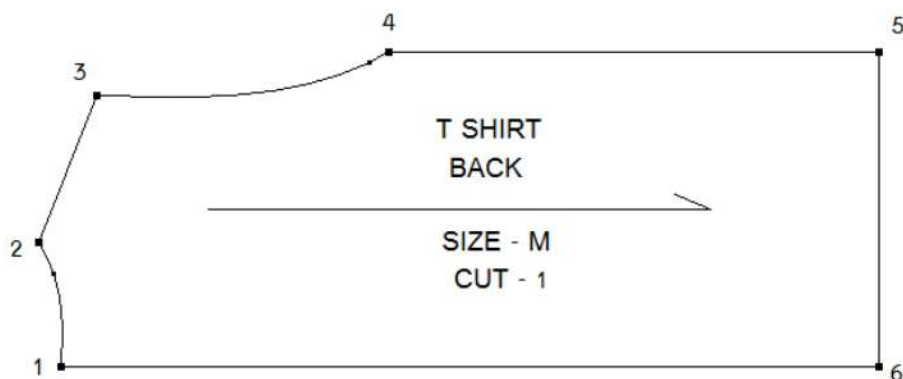


3. Click point 1 by selection tool.
4. Go to "Edit" menu and select "Point Attributes".
5. Select grading point to convert the normal point into grading point.
6. Repeat the above process for other points also.
7. Create sizes S,L & XL with suitable identification colours.
8. Open the grading table.
9. Calculate the grading increments for each point and prepare the grading increment table.

| Sizes -----→ | M to S | | M to L | | L to XL | |
|---|---|---|---|---|---|---|
| Point | X | Y | X | Y | X | Y |
| 1 | +1 | 0 | -1 | 0 | -1 | 0 |
| 2 | +1 | -0.5 | -1 | +0.5 | -1 | +0.5 |
| 3 | +1 | -1 | -1 | +1 | -1 | +1 |
| 4 | 0 | -1 | 0 | +1 | 0 | +1 |
| 5 | -1 | -1 | +1 | +1 | +1 | +1 |
| 6 | -1 | 0 | +1 | 0 | +1 | 0 |

10. Apply the grading increments for point 1.



11. Apply the grading increments for the point 2.



12. Apply the grading increments for the point 3.



13. Apply the grading increments for the point 4.

14. Apply the grading increments for the point 5.



| Sizes | | dx | dy | dd | <=> |
|---|---|---|---|---|---|
| S | | -1 | -1 | 1.41 | |
| M | | 0 | 0 | 0 | |
| L | | 1 | 1 | 1.41 | |
| XL | | 1 | 1 | 1.41 | |

15. Apply the grading increments for the point 6.



| Sizes | | dx | dy | dd | <=> |
|---|---|---|---|---|---|
| S | | -1 | 0 | 1 | |
| M | | 0 | 0 | 0 | |
| L | | 1 | 0 | 1 | |
| XL | | 1 | 0 | 1 | |

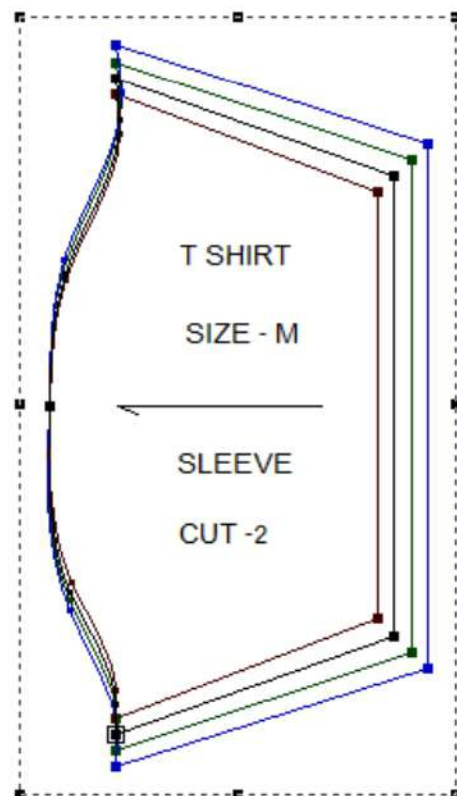16. Save the file.

## C. Grading a 'T' Shirt Sleeve Pattern.

1. Open the required 'T' Shirt Sleeve Pattern.
2. Name the corners 1,2,3,4 and armhole midlevel as 5.
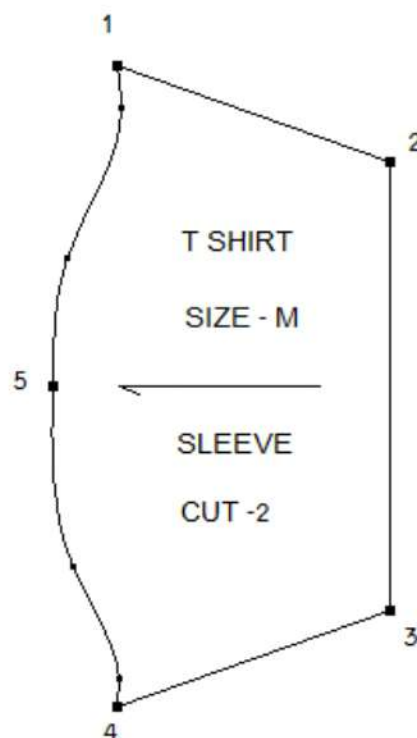
3. Convert all the corners in to grading points.
4. Create sizes S,L & XL with suitable identification colours.
5. Open the grading table.
6. Calculate the grading increments for each point and prepare the grading increment table.

| Sizes -----→ | M to S | | M to L | | L to XL | |
|---|---|---|---|---|---|---|
| Point | X | Y | X | Y | X | Y |
| 1 | 0 | -1 | 0 | +1 | 0 | +1 |
| 2 | -1 | -1 | +1 | +1 | +1 | +1 |
| 3 | -1 | +1 | +1 | -1 | +1 | -1 |
| 4 | 0 | +1 | 0 | -1 | 0 | -1 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |

7. Apply the grading increments for point 1,2,3 & 4. (No grading increments for point 5).



8. Save the file.

# TRAINEES' PRACTICE

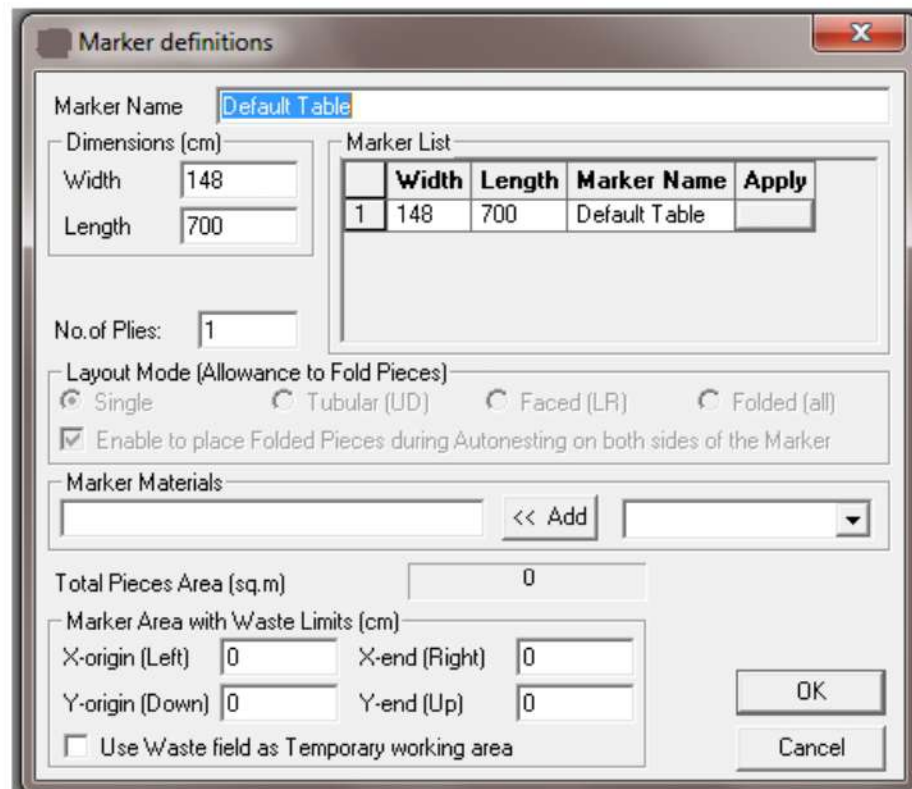Trainees may practice the following exercises with the help of their Instructors.

| Sl.No. | Name of the Experiment |
|--------|------------------------|
| 15. | Creating Patterns for Zabla |
| 16. | Creating Patterns for Babasuit |
| 17. | Creating Patterns for Romper |
| 18. | Creating Patterns for 'A' Line Frock |
| 19. | Creating Patterns for Party Frock |
| 20. | Creating Patterns for Boy's Shirt |
| 21. | Creating Patterns for Boy's Shorts |
| 22. | Creating Patterns for Girl's Flared Skirt |
| 23. | Creating Patterns for Culottes for a Girl |
| 24. | Creating Patterns for Ladies' Tops |
| 25. | Creating Patterns for Cut Choli |
| 26. | Creating Patterns for Ladies' Nightwear |
| 27. | Creating Patterns for Salwaar & Kameez |
| 28. | Creating Patterns for Chudidhar & Kurta |
| 29. | Creating Patterns for Gent's Shirt |
| 30. | Creating Patterns for Gent's Raglan 'T' Shirt |
| 31. | Creating Patterns for Gent's Trousers |
| 32. | Creating Patterns for Gent's Jeans |

**EXPT. NO. 33.**

**Date:**

# MARKER MAKING.

1. Double click on the icon of the Marker Making software.

2. Go to File menu and click "New".

3. Fill the required particulars in the dialog box.



4. Go to File menu and click Open style files.

5. Select "Browse" and select "Shirt" in the style files.



6. Fill the particulars in the dialog box (Order for Marker Making) and click Apply and OK.

7. Pick the patterns and make the marker by dragging them in to the fabric area.



8. Complete the marker by arranging all the pieces.
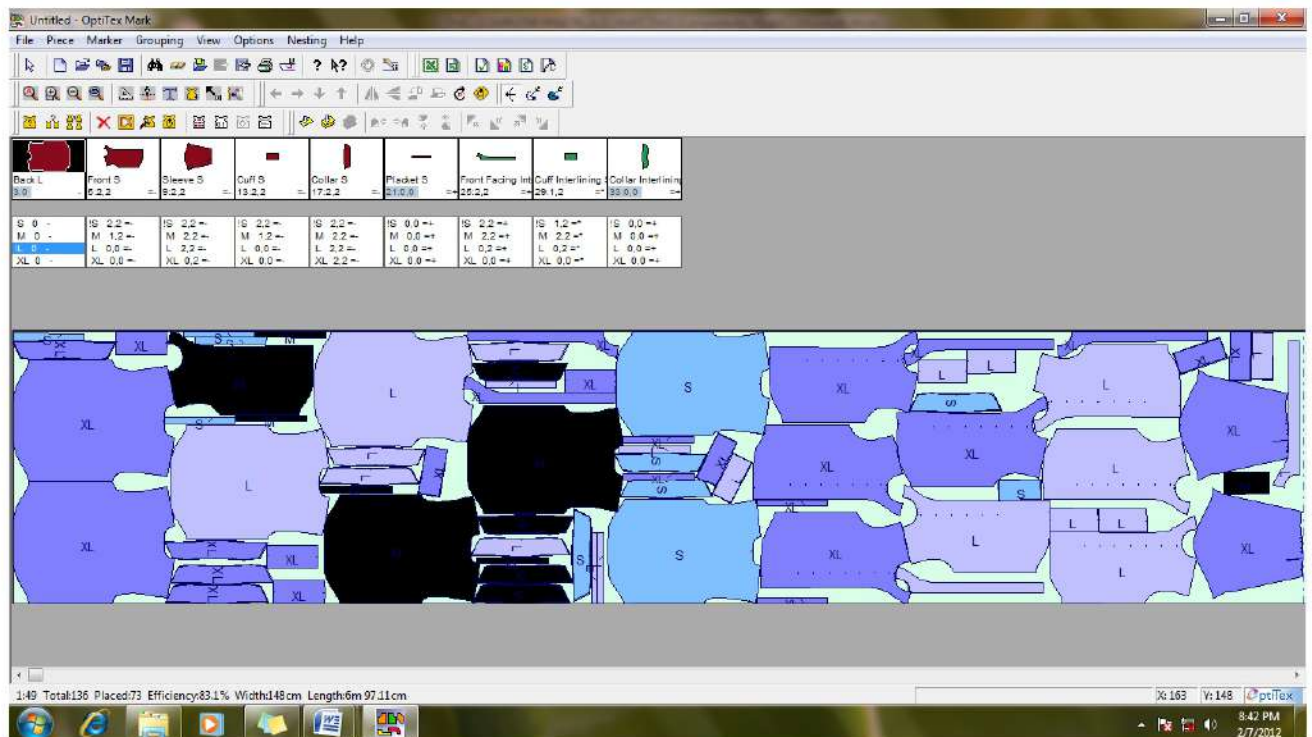


9. Save the file.

**EXPT. NO. 34.**

**Date:**

# MARKER MAKING BY AUTONESTING.

1. Double click on the icon of the Marker Making software.
2. Go to File menu and click "New".
3. Fill the required particulars in the dialog box.
4. Go to File menu and click Open style files.
5. Select "Browse" and select "Shirt" in the style files.
6. Fill the particulars in the dialog box (Order for Marker Making) and click Apply and OK.
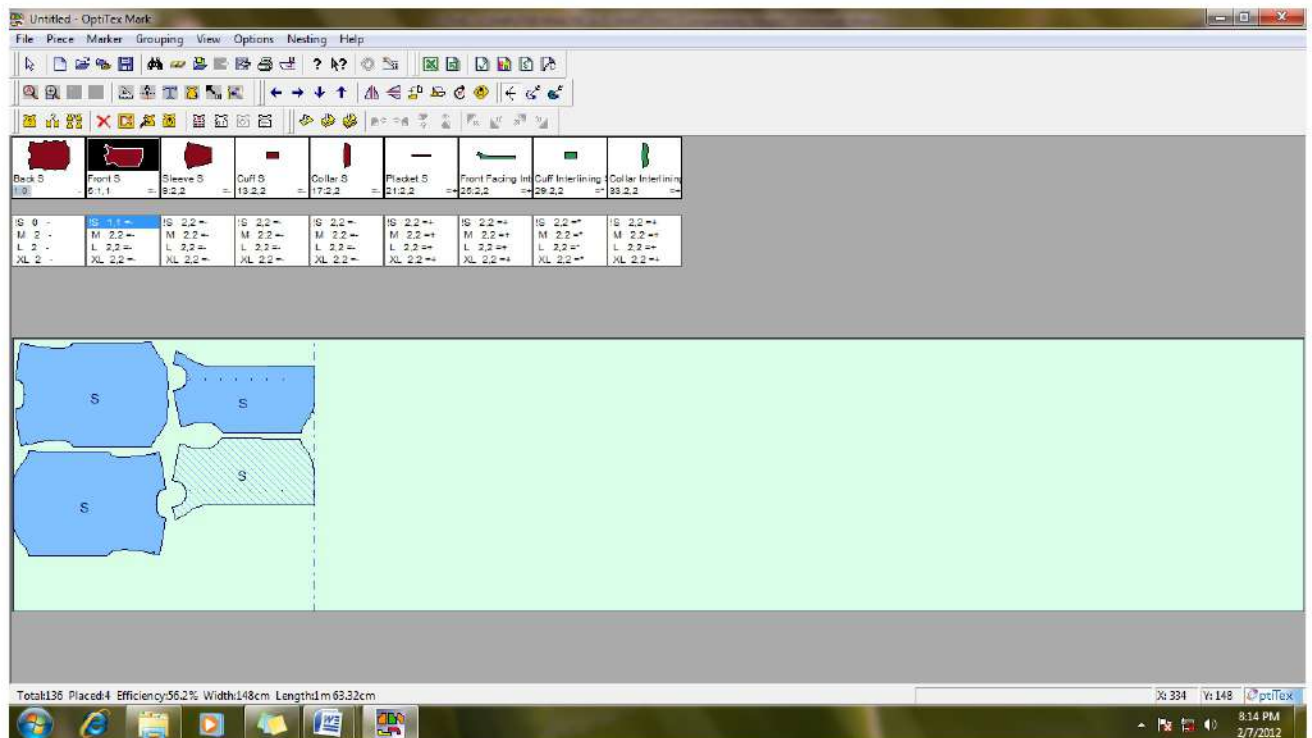7. Go to Nesting and click "Start Auto Nesting".
8. Observe that the marker is made automatically by the system.
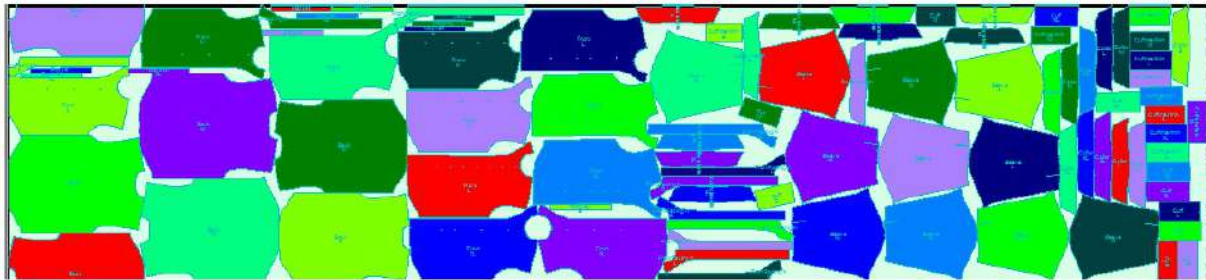


9. Save the file.

**EXPT. NO. 35 .**

**Date:**

# DRAPING THE GARMENT ON A MODEL.

1. Double click on the icon of the draping software.
2. Go to Library and select a model.



3. Select a suitable garment from the garment files.



1054



2239 C



5116



7052CUP1



a38



Bride Dress



Coat



Greece



Jacket

4. Select a garment and drape on the model by picking and dragging with the help of the mouse.



5. Select a suitable fabric from the fabric library files.



blue       BlueCrossWeave       BlueDishRag

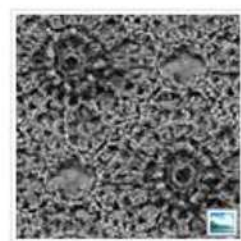BlueDustCloth       BlueGreenShimmerFabric       BrownCordoroy

BumpBlueDish       BumpRibbedGray       bumptahara

6. Select a suitable type of fabric and drape on the model by picking and dragging.



7. Select suitable "Buttons, logos and stitches" from the library files and apply on the model.

8. Select the measurement tool and check the important measurements.
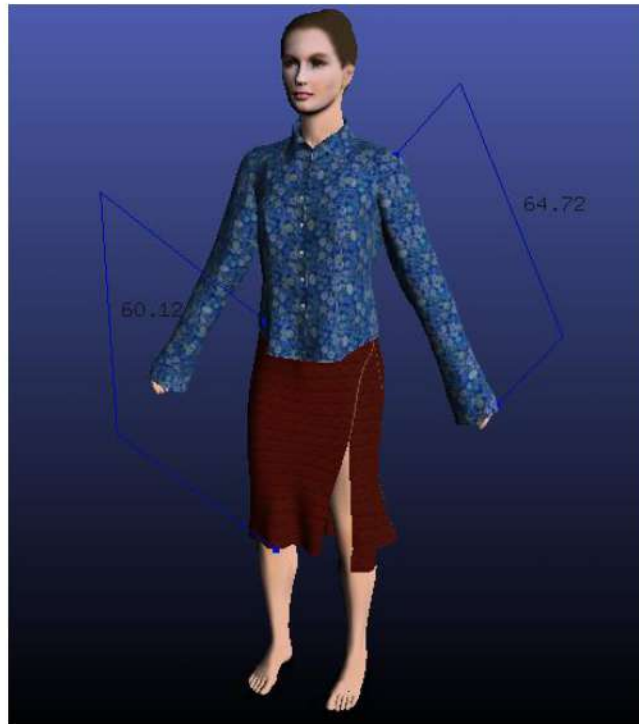


9. Select the "Tension Map" tool and check the fitting of the garment. Here the Colour Blue denotes "Loose fitting" , Green means "Normal fitting", yellow notes "Correct fitting" and Red means "Tight fitting".



10. Change the appearance and measurements of the model if necessary.

11. Change the lighting effects and back ground colours.

12. Save the file.

**EXPT. NO.36.**

**Date:**

# DRAPING THE PATTERN ON A MODEL.
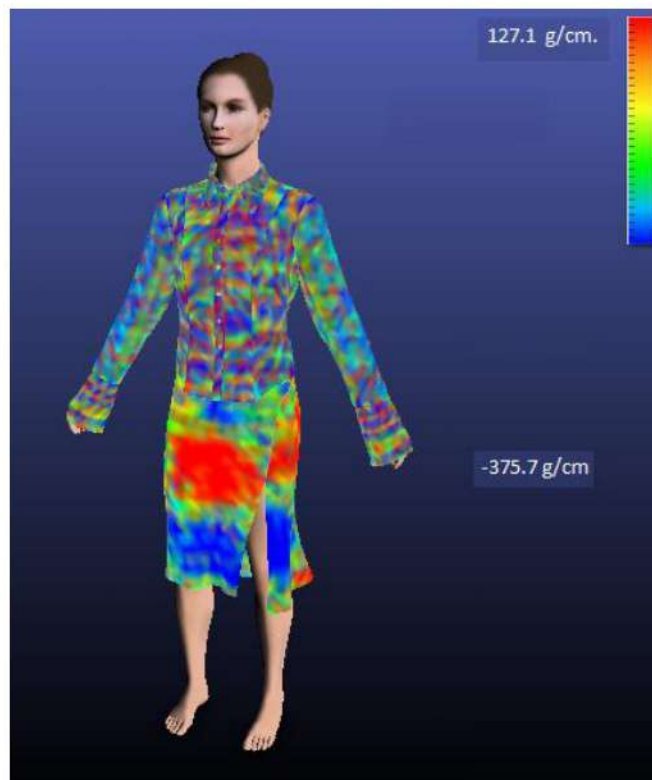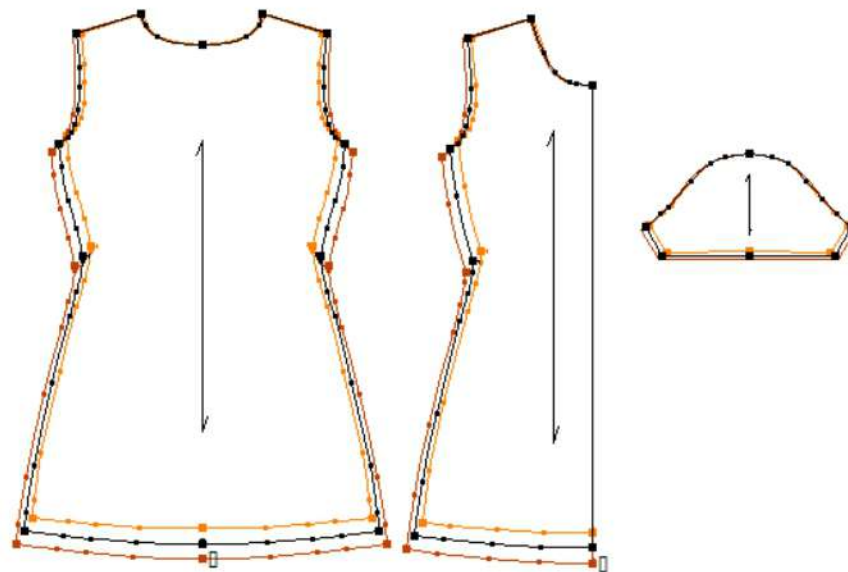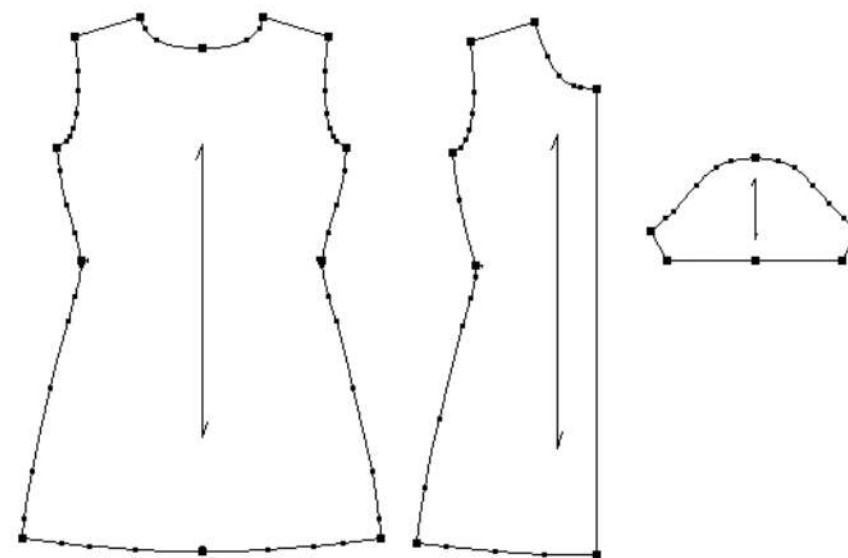
1. Double click on the icon of the draping software.

2. Open the required pattern file. This file is a symmetric file and all the patterns have the quantity of two. Only half the amount of the actual pieces is needed.



3. Go to Grading Menu. Select Zero Grading and Select Zero All Grading. Select 'All pieces in the file' in the Dialog box.



4. Make sure the style consists of all patterns necessary. If some are missing, we may copy and paste, then flip or rotate accordingly. The pieces are the right side pieces. Lay the patterns out in a sensible manner on the screen.

5. From the View menu select 3D and select "Properties" dialog that can be found in the 3D subfolder. Dock this window by default vertically on left side of the screen. For each and every piece select the appropriate initial body position. Click one on the piece to select. Pieces can be multiply selected using "Shift" key or by dragging a rectangle and assigned similar properties.
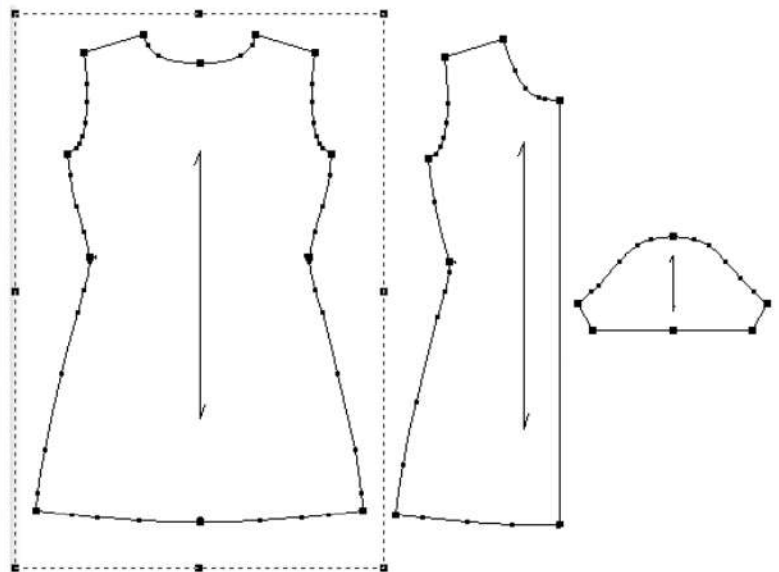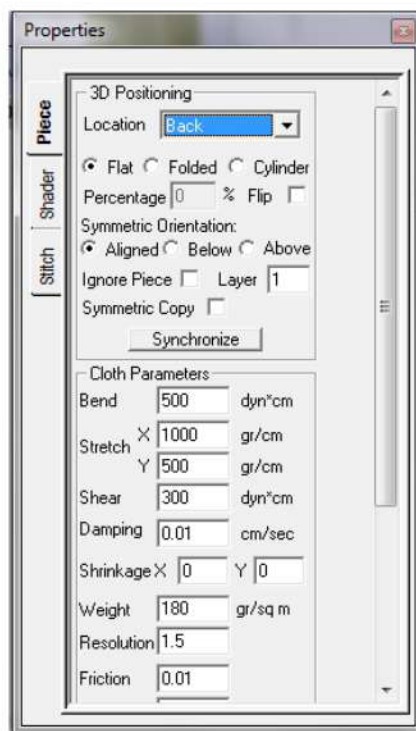


6. Verify placement by placing the cloth on the virtual model. Open the 3D view by selecting the "Model" options from the 3D subfolder in the VIEW menu.

7. Click on the "Place Cloth" tool. From the 3D toolbar.

8. After pressing the tool, you should see the following in 3D. Both front pieces are located on top of each other, and the same for the back. We now have to separate them interactively in 3D.
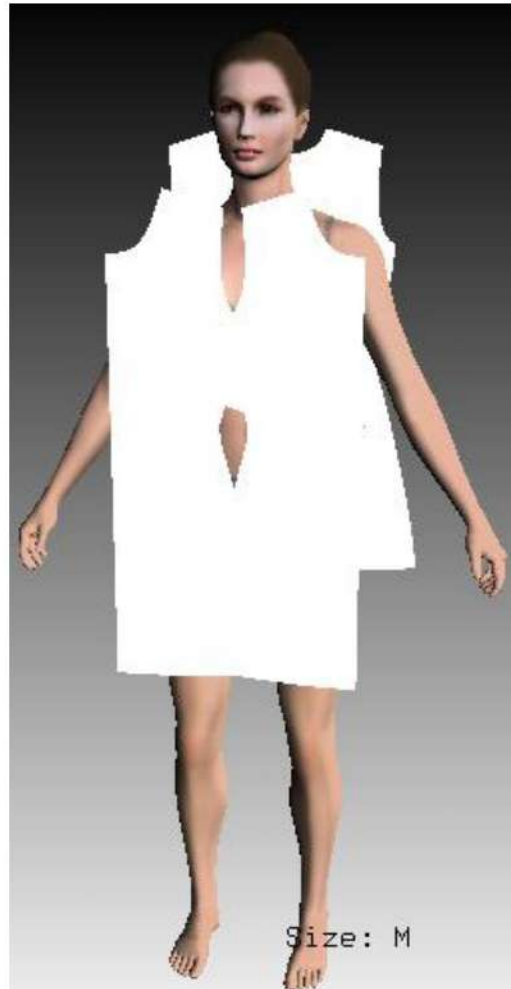


9. There are two basic operating modes in 3D: Navigate. (Default, always on) & Edit.(CTRL key down). Navigation mode is always "On", meaning we can always rotate, zoom & move the mannequin to inspect from different angles, no changes will occur. Edit mode is available by holding down the Ctrl key.

10. To move a specific piece, hold Ctrl down, then left click the piece, it should show a green rectangle indicating its selection. Moving the mouse left, right up and down moves the piece accordingly. To push the piece IN and OUT hold Ctrl down, right click it, and then move the mouse Up and Down.

11. Make sure the pieces are located correctly by inspecting the mannequin from multiple angles.

12. Using clear cloth tool, remove the fabric from the model.
13. Select 'Shader' in the 3D properties dialog box. Select the colour and texture of the fabric.
14. Use place cloth tool and verify the fabric colour and texture.



Size: M

15. Remove the fabric using clear cloth tool. Select the Back pattern using selection tool. Select the left half of the pattern and click Set Half tool.
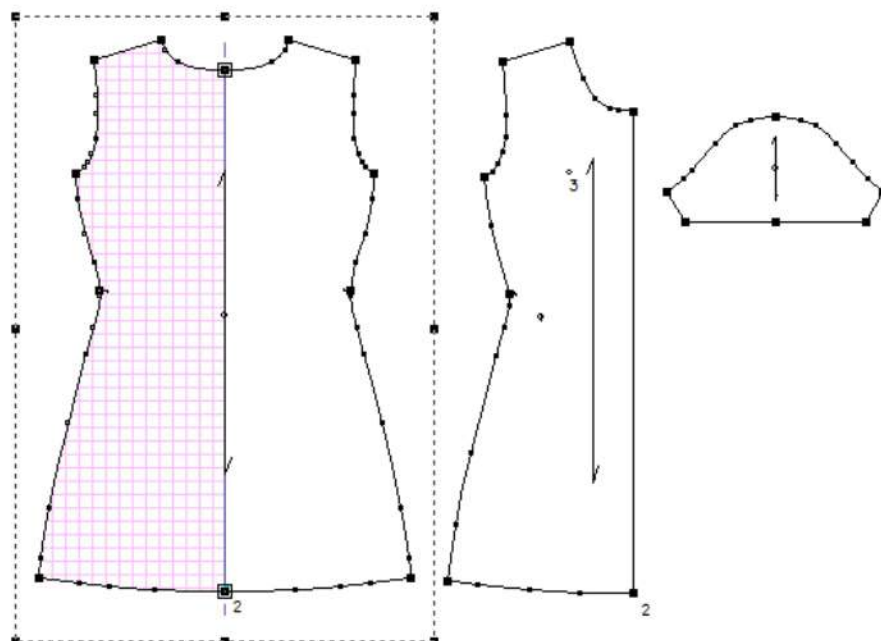
16. Select stitch tool in 3D tools. Select the front shoulder& Back shoulder, Front side seam & Back side seam, Front armhole & Sleeve front armhole, Back armhole & Sleeve back armhole and finally sleeve left side seam & Sleeve right side seam. All the selection should be in Clockwise order only. Notice the change in colour of the segments after selection.
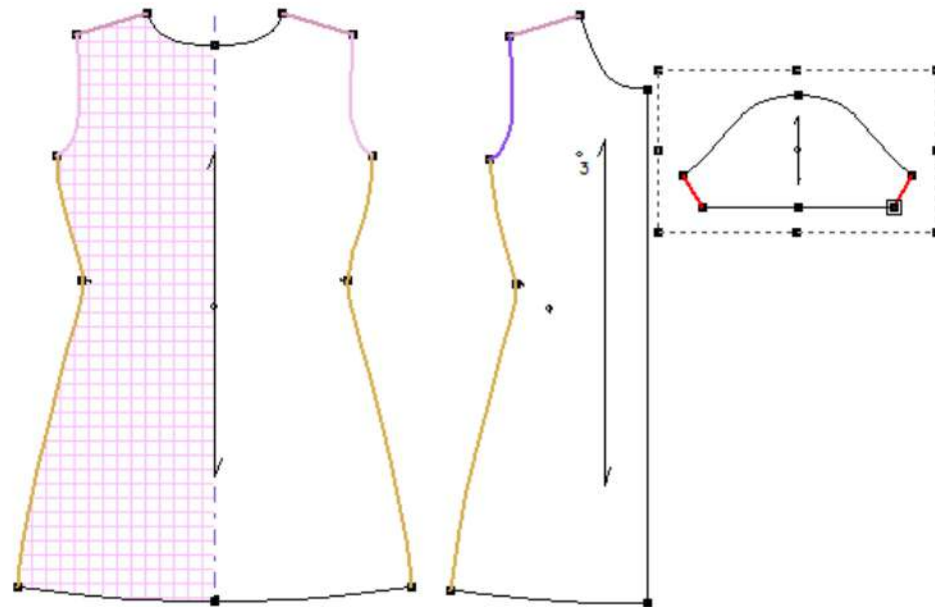


17. Select the front CF line clockwise using stitch tool. Select Stitch menu in 3D Properties and mark Symmetric. Note that the flipped has also been marked automatically.
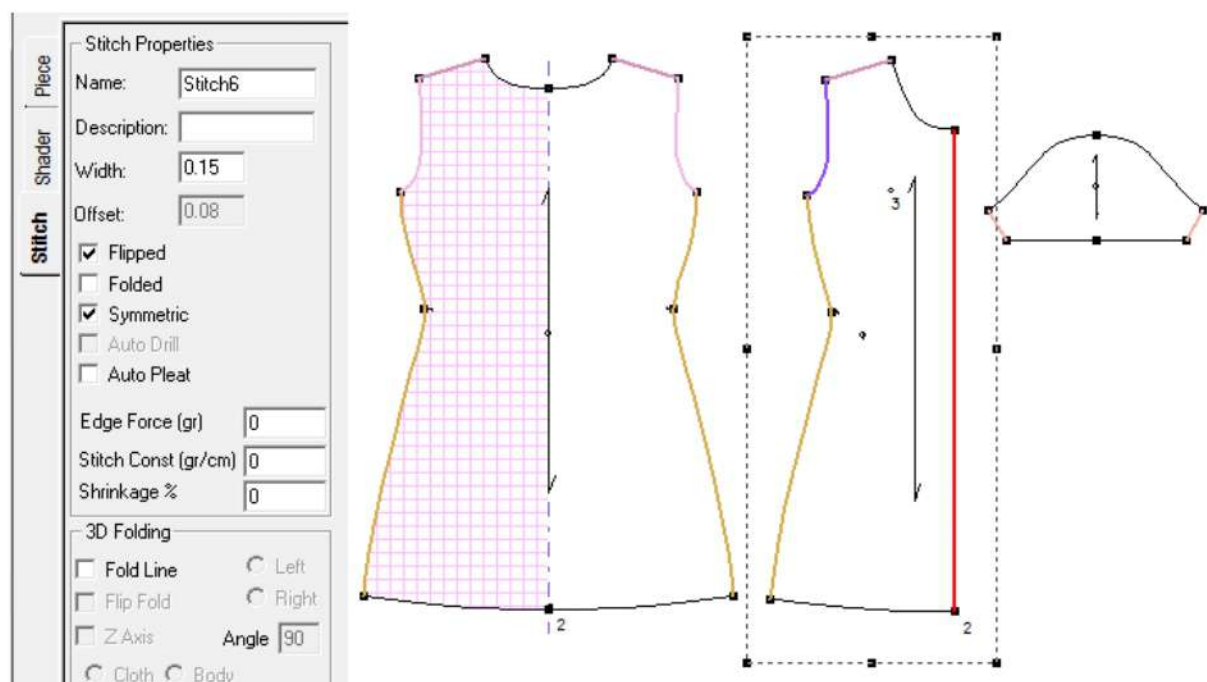
18. To delete a particular stitch, select the stitch tool and right click. The shape of the curse will be changed. Select a particular stitch and press del in key board.

19. Go to 3D tools, Click place cloth tool. The patterns are connected using blue coloured stitch lines over the model. Do the alterations if required.
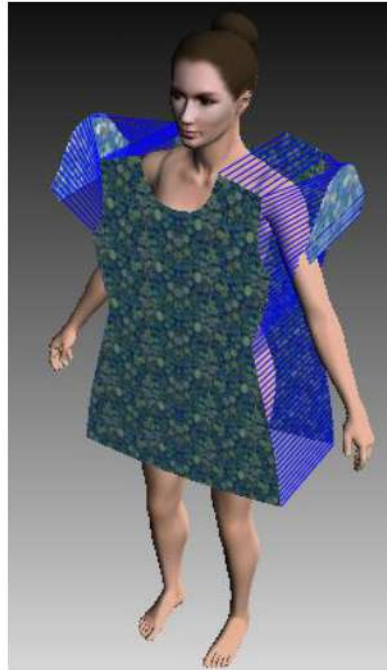


20. Click Simulate Draping Tool. The patterns are joined and finally draped in the model.