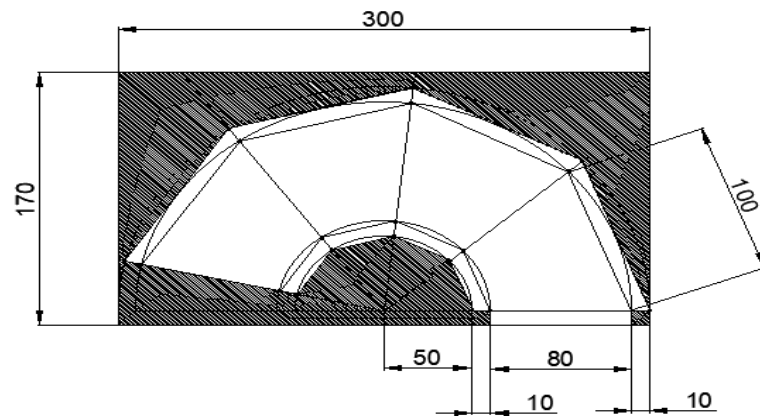
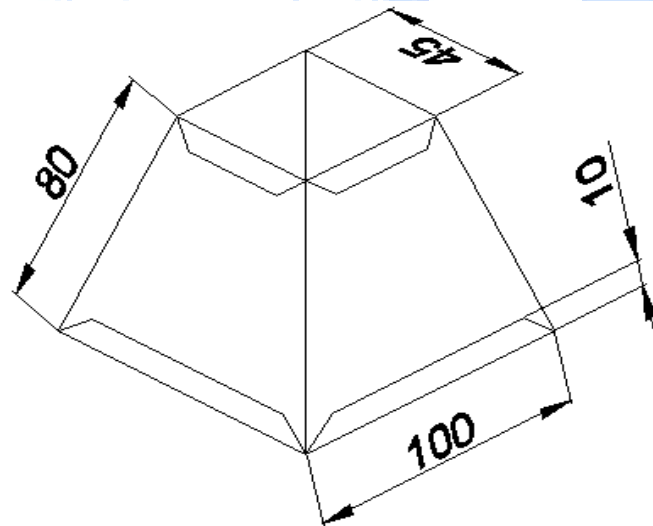


HOPPER MAKING



LAYOUT OF HOPPER
ALL DIMENSIONS ARE IN mm.

■ UNWANTED PORTION



FINISHED HOPPER

ALL DIMENSIONS ARE IN mm.

EXNO:

DATE:

HOPPER MAKING

Aim:

To make a hopper of given specification from a sheet metal piece.

Application:

Flour mill, chimney and A/c duct etc.

Material Specifications:

Material : Galvanized iron

Sheet of dimension: 300mmx170mm, thickness 33 gauge.

Tools Required:

1. Steel rule
2. Scriber
3. Divider
4. Dot punch
5. Straight Snip
6. Mallet
7. Stake
8. Anvil.

Sequence of operation:

1. Checking
2. Layout marking
3. Shearing
4. Folding
5. Locking and Finishing

Working Steps:

Checking:

Check whether the given sheet is having its dimensions as 300mmx170mm. If the dimension is excess trim off using hand shear. If It's less change the given sheet.

Layout Marking:

- 1) Place the given sheet over working table, so that the side of dimension 300mm is horizontal.
- 2) From left bottom corner, draw the 10 mm horizontal line (This line is called base line).
- 3) Then Mark the mid-point on horizontal line. From that point, to mark 50mm, 10mm 80mm, and 10 mm on, and make dot with punch
- 4) From the middle point draw an arc of radius 50 mm, 60mm, 140mm, and 150mm.
- 5) Using divider keep 100 mm between legs and with 140 mm as center draw an arc.
- 6) Similarly cut arc as shown in figure.
- 7) From the midpoint draw an intersection line through and till the end.
8. In each division lines have four intersection points and make dot with punch.
- 9) Joint the punch mark in horizontal in each division these lines are reference lines for cutting and folding.

10) Hatch unwanted portion as shown in figure using marker.

Shearing:

- 1) To remove unwanted portion cut along the dark line.
- 2) Make a small diagonal cut at all corners of the seam portion as shown in figure.

Folding:

- 1) Keep the pattern over taper stake such that the line locking portion with edge of the stake. Using mallet fold the seam portion 180^0 outwards.
- 2) Similarly fold all the seams except last seam in portion.
- 3) Place the sheet over stake such that edge of aligns with stake edge and fold the hem portion 90^0 downwards.
- 4) Now it's got hopper shape without locking.

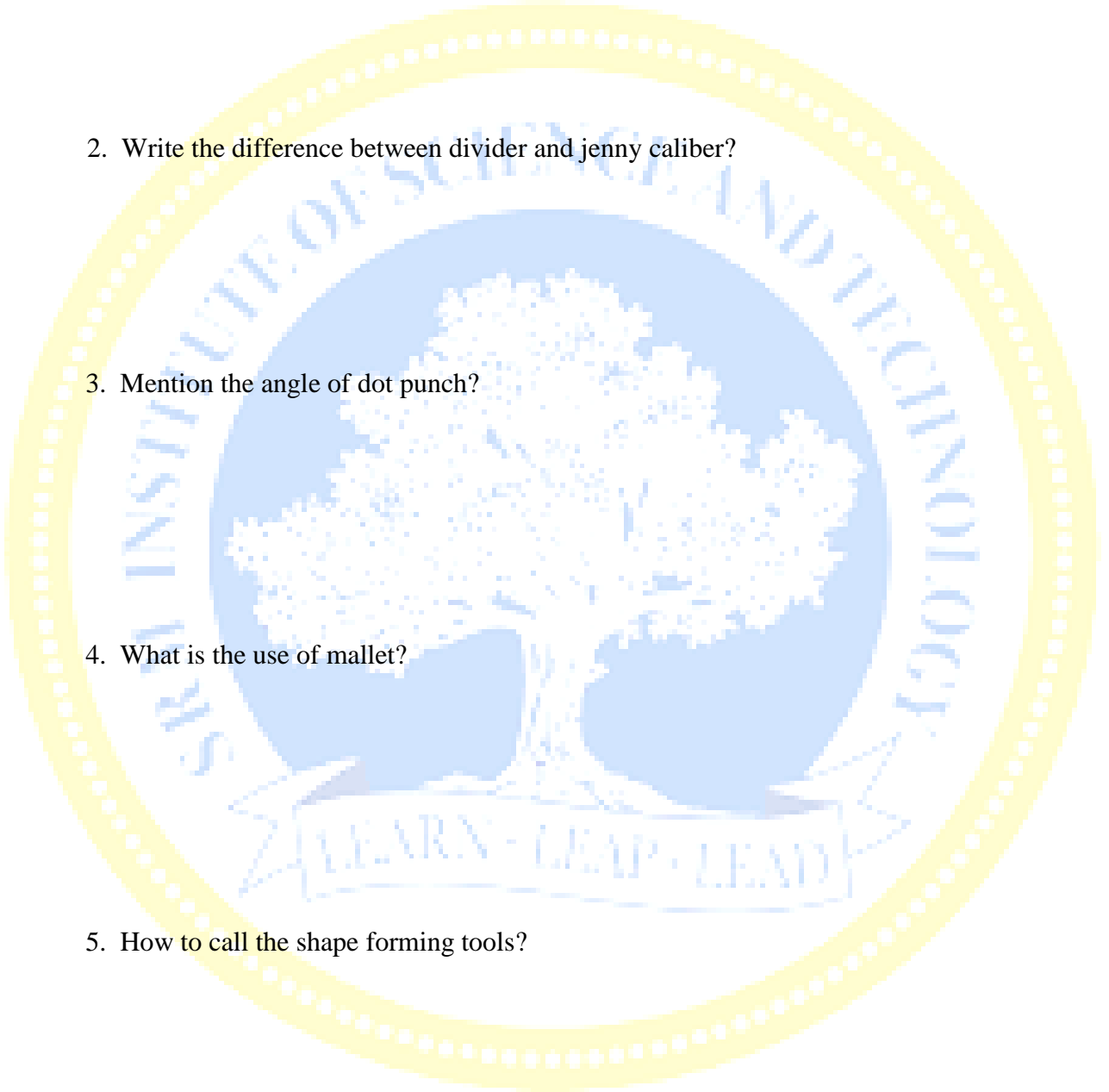
Locking and Finishing:

- 1) Overlap the locking portion 10mm on last division, hemming the 10mm portion both bottom and top fold outwards.
- 2) Use proper stake and mallet make perfect shape.
- 3) Check for the dimension

Pre Lab Question:

1. How many sides in hopper?
2. Define sheet metal work?
3. What is the use of hopper?
4. Which device used to measure angles?
5. How many inches in one feet?

Post Lab Question:

1. What are the application of sheet metal work?
 2. Write the difference between divider and jenny caliber?
 3. Mention the angle of dot punch?
 4. What is the use of mallet?
 5. How to call the shape forming tools?
- 
- The logo of SRM Institute of Science and Technology is a large, circular emblem. It features a yellow outer ring with a dotted pattern. Inside this is a blue circle containing a white tree. The text "SRM INSTITUTE OF SCIENCE AND TECHNOLOGY" is written in blue around the tree. At the bottom of the tree, a banner reads "LEARN · LEAP · LEAD".

Result:

Thus the required hopper is made out of the given sheet metal piece.