Sheetmetal Working Workshop
SHEETMETAL PROJECT: PATTERN DEVELOPMENT DRAWING

**FINISHED PRODUCT**
- Height = 5” = h
- Length = 10” = l
- Width = 5” = w

**Formula**
- \[ w + h + \text{lapseam} = \text{total width of metal} \]
- \[ \text{Total size of metal} = l \times w \]

![Diagram of duct with lapseam detail.]

This is a detail of the lapseam for this duct. The 1” lap will need to be added into your calculations.

**CUTLIST**
- 2pcs ___ x ___
Step 1. Please read the entire instruction sheet before beginning this project.

Step 2. Line up the drawing paper parallel with the T square and tape down all 4 corners of the drawing paper.

Step 3. Draw a border on the paper. The border should be ½” from all four edges of the paper and these lines should be dark.

Step 4. All layout line should be drawn lightly, when your drawing is complete then the necessary lines will be darkened.

Step 5. Start your first horizontal line 1” parallel to the bottom edge of the paper and 1 ½” parallel to left edge of paper, draw a line 11” long.

Step 6. Draw a line perpendicular to your first line 1 ½” from the left edge of the paper, beginning at the original start point, Draw this line 10” long.

Step 7. Beginning at the line in step 5, draw a series of vertical lines at ½”, 1”, 6”, 10 ½” and 11” from the line in step 6, all 10” long.

Step 8. Beginning at the line in step 6, draw a series of horizontal lines at ½”, 1”. 9”, 9 ½” and 10” from the line in step 5, all 11” long.

Step 9. Only intersecting the first three and last two vertical lines draw three horizontal lines at 3”, 5” and 7” from the line in step 5. This is the rivet hole layout.

Step 10. You have successfully laid out a pattern for a square duct.

Determine which lines need to be darkened, erased, and what dimensions are needed. The rivet holes will need to be marked with a circle found on the eraser shield. If time permits, include a title block in the lower right corner of drawing. This will be the same square duct created in lesson three. This drawing and instructions will be needed.
Title will be ¾” text. Scale, drawn by and date will be ¼” text. CWIT training center will be ¾” text.
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SHEETMETAL PROJECT: PATTERN DEVELOPMENT DEFINITION SHEET

**Horizontal:** line parallel to horizon

**Vertical:** line straight up and down

**Parallel:** lines in the same direction and at a fixed distance apart, never touching

**Perpendicular:** lines that form a right angle