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LAB# 6 ROOF TRUSS DRAWING

LAB #6 VIDEO

LEARNING OBJECTIVES:

1. CORRECTLY USE THE TOOLS LISTED BELOW
2. CREATE APPROPRIATE LAYERS USED IN THE DRAWING
3. ASSIGN CORRECT LINETYPES TO LAYERS
4. ASSIGN CORRECT COLORS TO LAYERS
5. USED CORRECT DIMENSION STYLES TO ANNOTATE THE DRAWING
6. USE THE POLAR SNAP COMMAND
7. FORMAT DRAWING FOR $\frac{1}{2}''=1'-0''$ SCALE
8. COMPLETE THE DRAWING AS SHOWN ON PAGE 9 AND PRINT

TOOLS USED

COPY

OFFSET

TRIM

EXTEND

POLYLINE

POLAR

LAYERS

DIMS

TEXT

BORDER

VPORT

TEXT

GUSSET PLATE

2X4

HIDDEN LINE

COLORS

RED

WHITE

BLUE

RED

WHITE

BLUE

GREEN

MAGENTA

DIMENSIONS

LINEAR

ANGULAR

ALIGNED

DRAWING SETUP:DRAWING SCALE: $\frac{1}{2}'' = 1'-0''$ DRAWING SCALE FACTOR $(\frac{1}{2}'' \times 1/12'' = 1/24=24 \text{ SF})$ DIM STYLE = 24_SCALE $(\frac{1}{2}'' \times 1/12'' = 1/24=24 \text{ SF})$

FIT TAB (use overall scale of) = 24

PRIMARY UNITS = ARCHITECTURAL---PRECISION = $1/8''$

TEXT STYLE NAME: 24_SIMPLEX

FONT STYLE: ARIAL

TEXT HEIGHT: 3''

FORMAT UNITS = ARCHITECTURAL

DRAWING TITLE = PREFAB TRUSS

DRAWING # = TR-1

DRAWING SCALE = $\frac{1}{2}'' = 1'-0''$ OR SCALE FACTOR (1:24)

MAKE SURE TO USE THE FOOT MARK (') WHEN PUTTING IN LENGTHS OF OBJECTS WHEN IN ARCHITECTURAL UNITS, YOU CAN LEAVE THE "INCH MARK OF, ACAD ASSUMES INCHES IF LEFT BLANK

EXAMPLE: 10'-6 $\frac{1}{2}''$ CAN BE INPUT AS

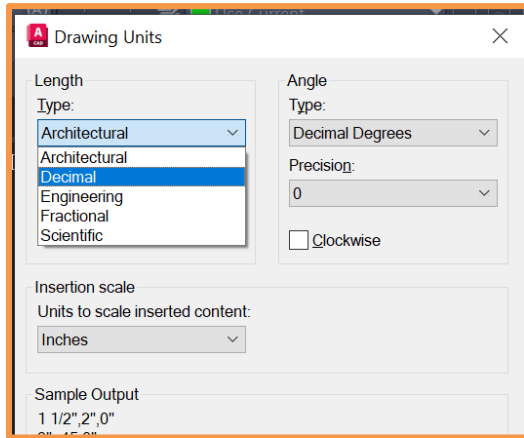
10'-6.5

10'6-1/2

10'-6-1/2

REMEMBER (10) WITHOUT THE foot (') MARK WILL BE 10 INCHES LONG, NOT TEN FEET

SETTING UNITS: TYPE UNITS INTO THE COMMAND LINE OR DYNAMIC INPUT (DYN) AND SET TO ARCHITECTURAL (FIG 7.1)



STEP ONE:

SET UP POLAR SNAP TO 30 DEGREES TO DRAW THE ANGLED LINES (FIG 7.2)

MAKE SURE TO USE OSNAPS TO LOCATE POINTS: MIDPOINT, ENDPOINT, PERPENDICULAR (FIG 7.3)

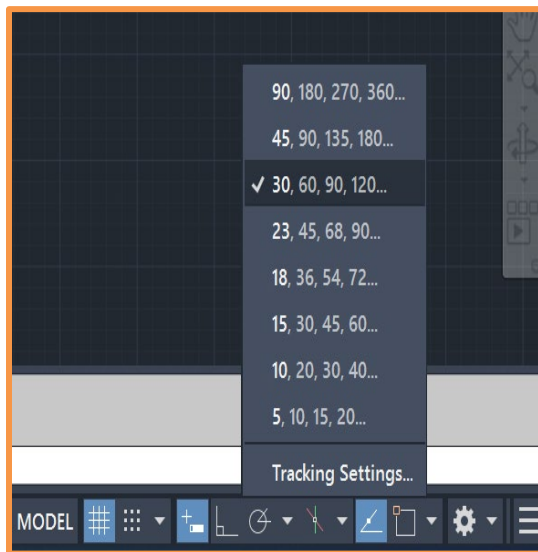


FIG 7.2

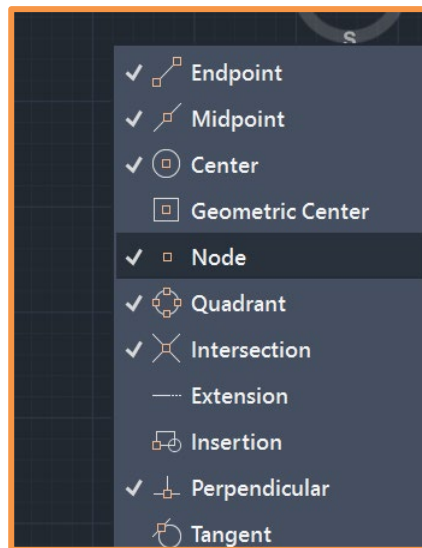


FIG 7.3

STEP TWO:

LAYOUT THE 2X4 TRUSS COMPONENTS

DRAW THE BOTTOM CHORD OF THE TRUSS AT 18'-0" x 3-1/2" WIDE ON THE 2x4 LAYER (FIG. 7.4)

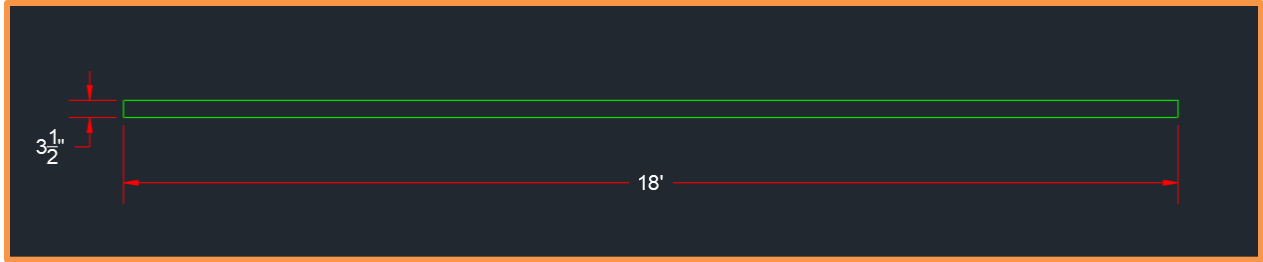


FIG 7.4

USE POLAR TOOL TO DRAW 2 LINES AND OVERLAP AT THE TOP THEN TRIM TO DETERMINE THE PEAK (FIG 7.5)

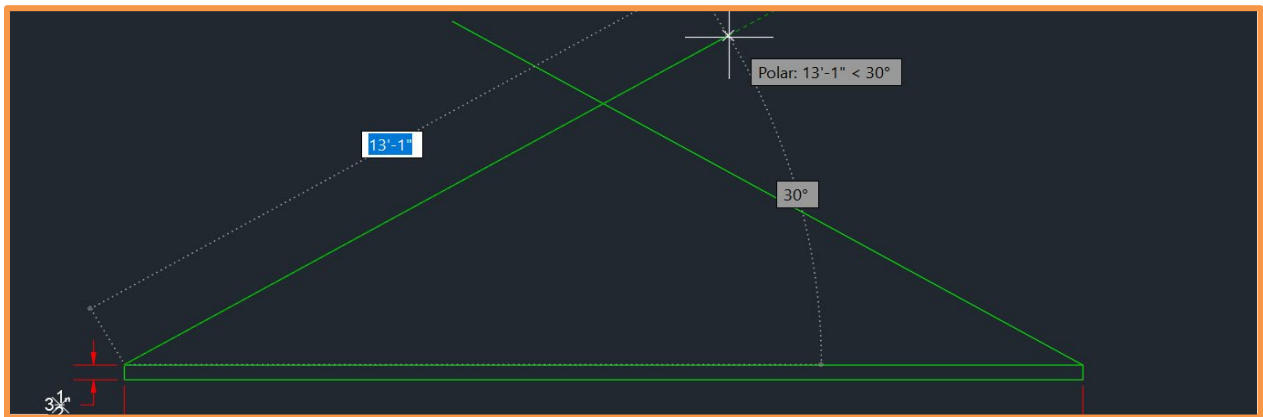


FIG 7.5

OFFSET THE TOP CHORDS TO THE INSIDE AT 3-1/2" (FIG 7.6)

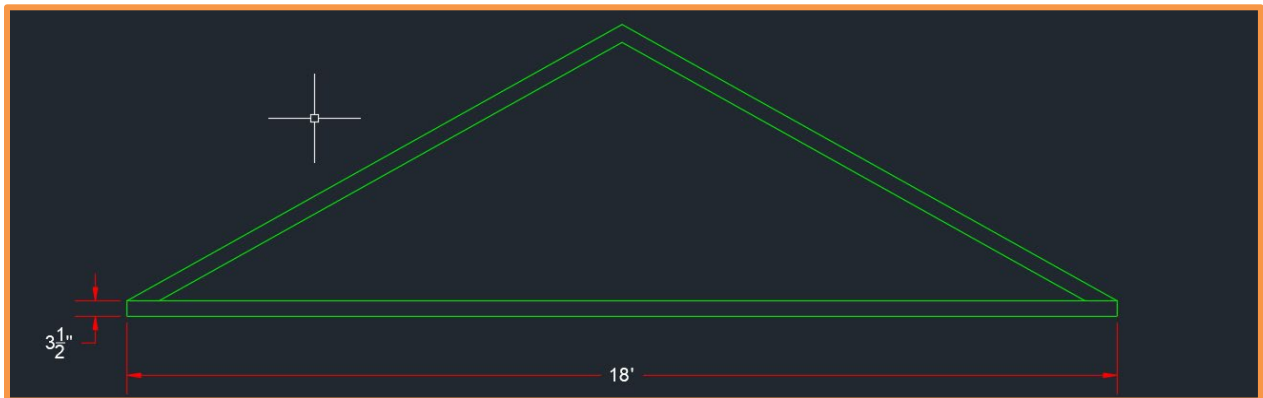


FIG 7.6

STEP THREE:

FOR THE BRACES BETWEEN THE TOP AND BOTTOM CHORDS USE THE POLAR TOOL TO CREATE ONE EDGE OF THE 2x4 THEN OFFSET AT 3-1/2" AND TRIM (FIG 7.7) PAY CLOSE ATTENTION WHAT LINE YOU SELECT AND THE SIDE YOU OFFSET TO

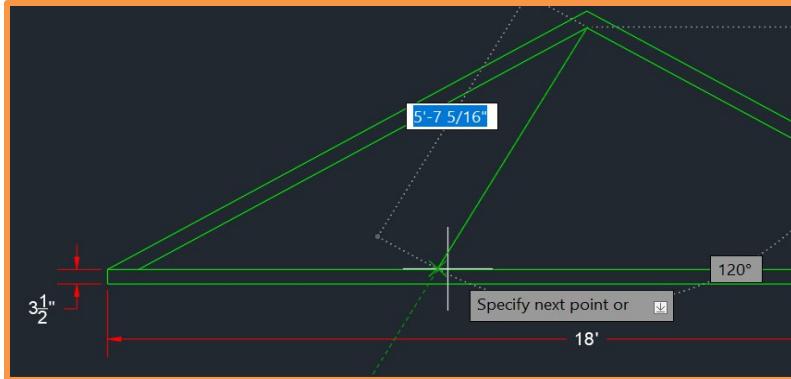
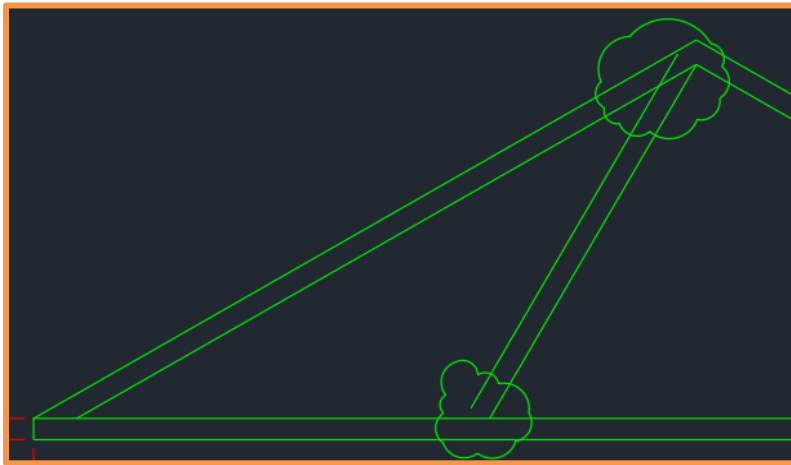
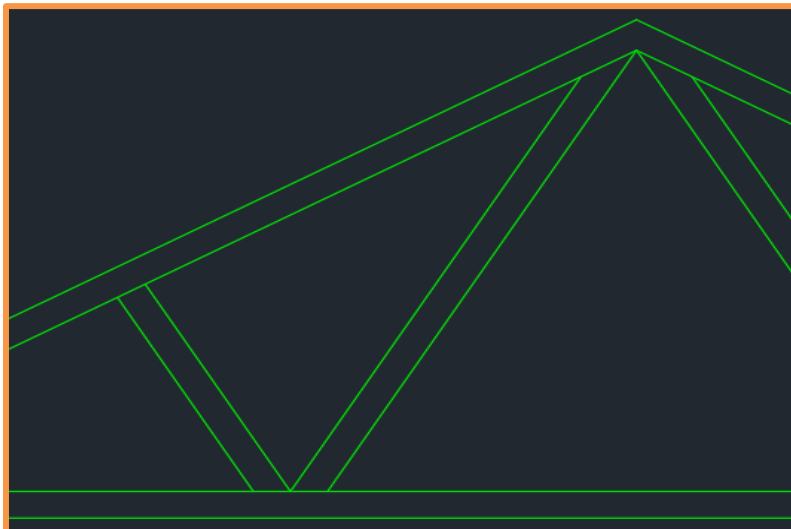


FIG 7.7

SELECT ENDPOINT INSIDE OF PEAK
DRAW WITH POLAR ON A LINE AT 120
DEG. TO THE INTERSECTION AS
SHOWN



TRIM LINE AT PEAK AND EXTEND LINE
AT BOTTOM CHORD INTERSECTION
AS SHOWN



REPEAT THESE STEPS ON THE
OPPOSITE SIDE

STEP FOUR:

GUSSET PLATES: DRAW 12x18 RECTANGLE THEN TRIM WHAT YOU DON'T NEED, SAME ON 18X24 GUSSET PLATE AT THE TOP AND 12X18 RECTANGLES WHERE THE BRACES MEET THE BOTTOM CHORD. (FIG 7.8)

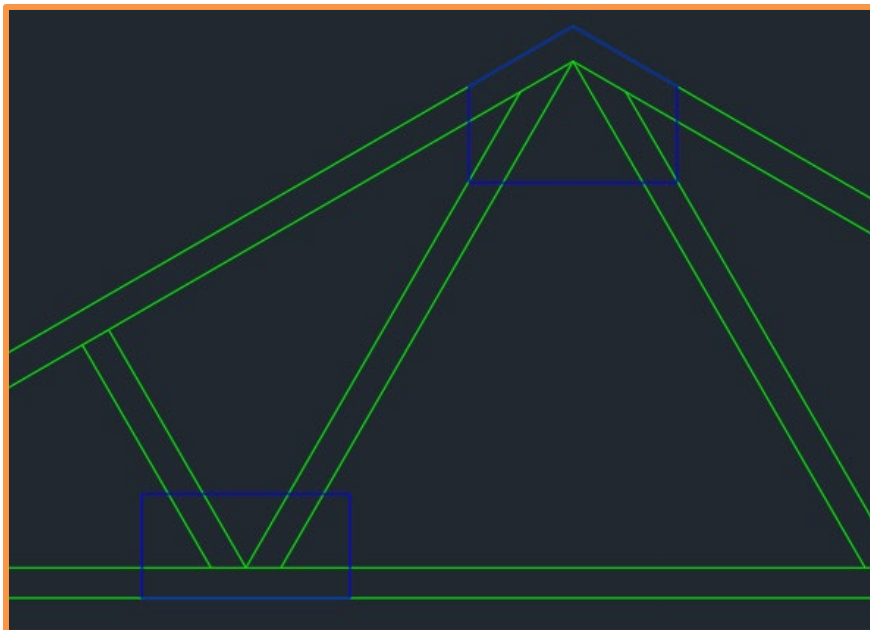
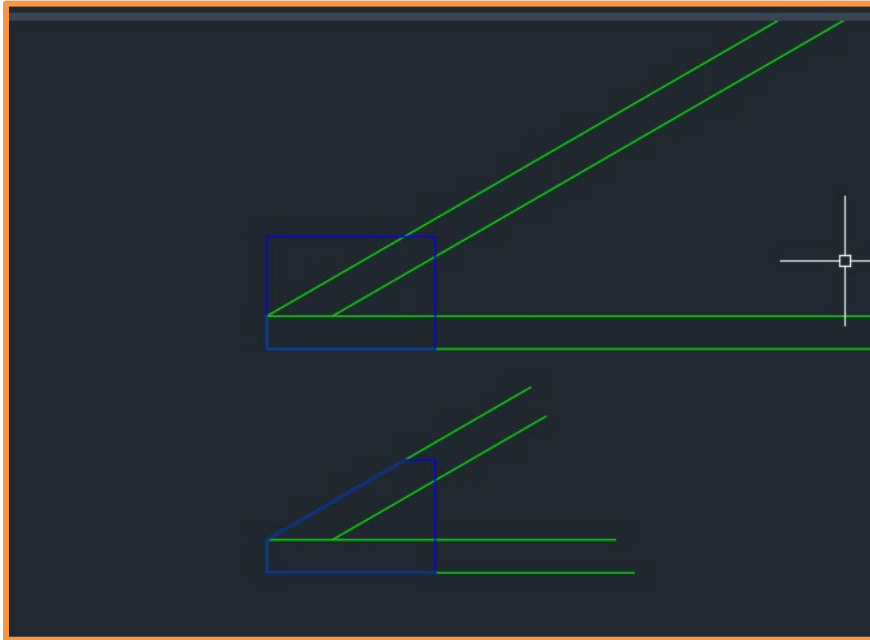


FIG 7.8

GUSSET AT BRACE: FIG 7.9

OFFSET TOPLINE DOWN 12"---TRIM---DRAW LINE FROM MID POINT AT CORRECT ANGLE—
 OFFSET THAT LINE 6" ON EACH SIDE---THE TURN ON OSNAP SETTING INTERSECTION---TRACE AS
 SHOWN BELOW USING THE POINTS CREATED WITH THE TEMPORARAY LINES YOU OFFSET

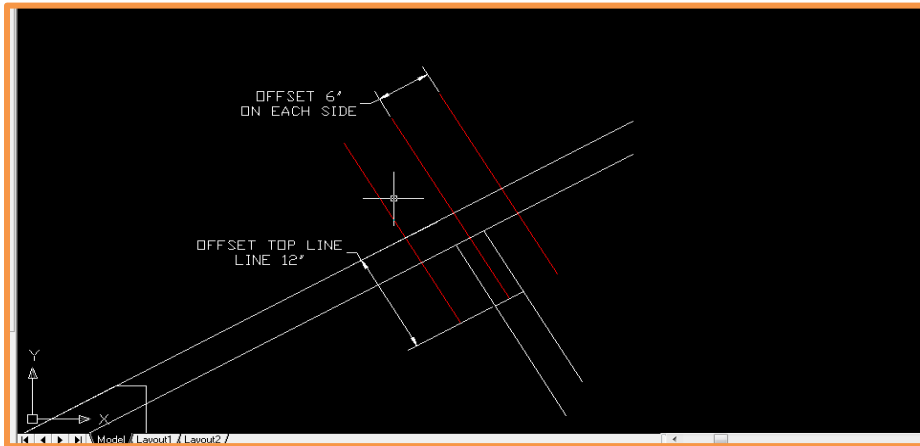


FIG. 7.9

ONCE YOU COMPLETE THE LEFT SIDE USE MIRROR AND MIRROR THE BRACES /GUSSETS ETC. TO THE
 RIGHT SIDE INSTEAD OF REDRAWING EVERYTHING FIG. 7.10

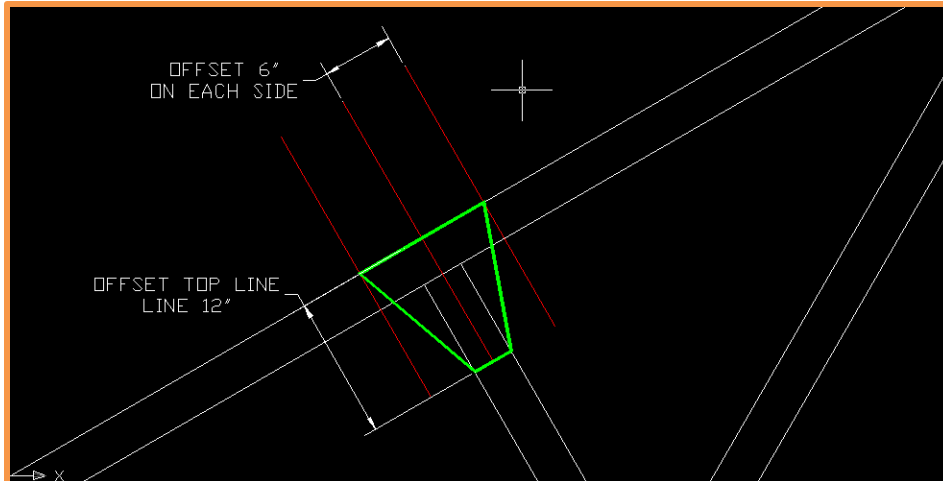
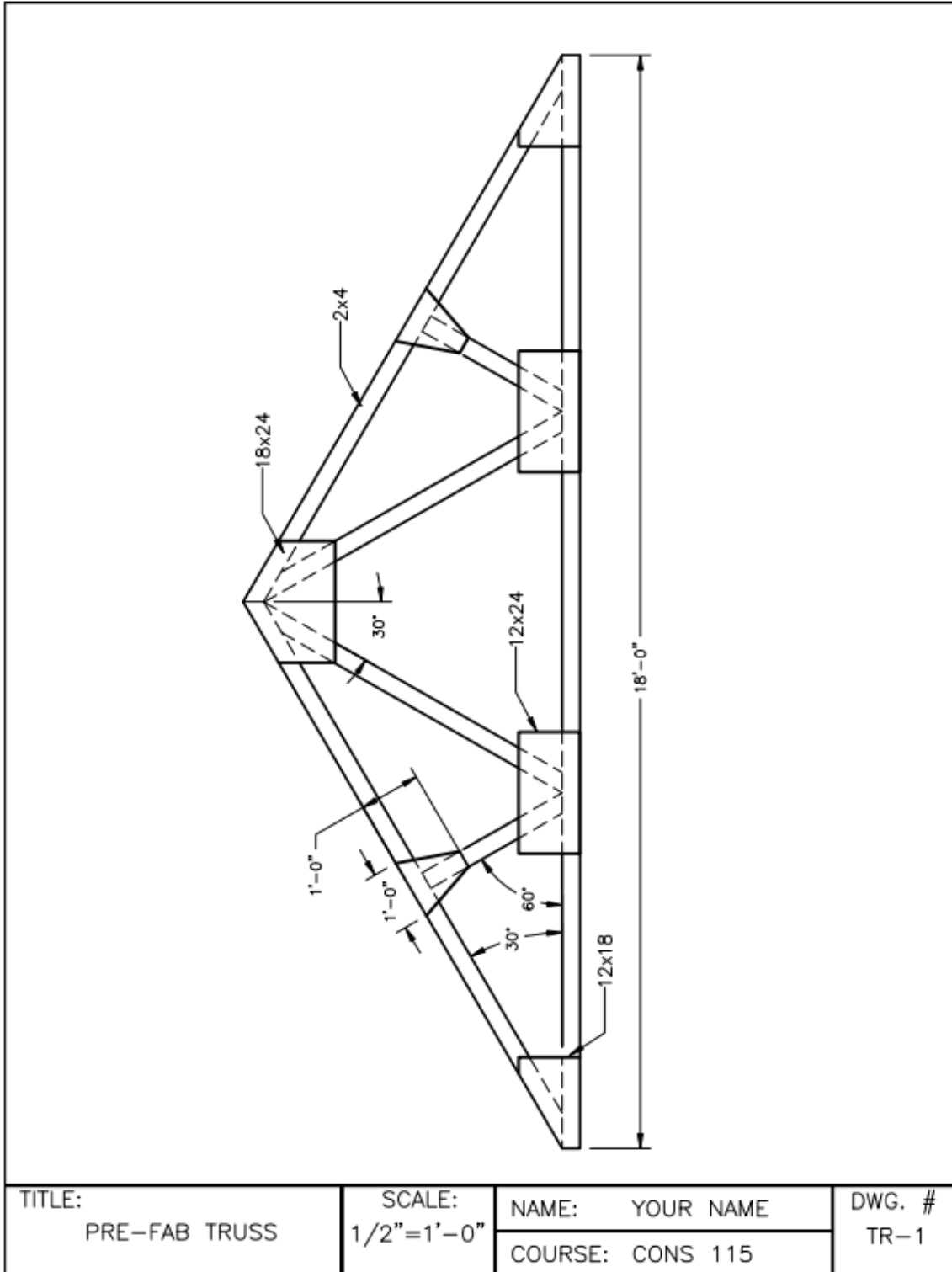


FIG 7.10

Instructor resources:



DEFINE THE FOLLOWING TERMS:**COPY**

Create Multiple Copies With COPY, you can create multiple copies from the specified selection set and base.

OFFSET

You can offset an object by specifying either an offset distance or a point to pass.

TRIM

Trims objects to meet the edges of other.

EXTEND

Extends objects to meet the edges of other.

POLYLINE

A polyline is a connected sequence of line segments created as a single

POLAR

Polar tracking restricts cursor movement to specified angle

LINEAR

Create **linear** dimensions with horizontal, vertical, and aligned dimension.

ANGULAR

Create angular dimensions such as 45, 90 120 degrees using dimension tool

ALIGNED

Align Dimension Text Whether text is inside or outside the extension lines, you can choose whether it is aligned with the dimension line or remains linear.