

**BUILDING TRADES**  
**Gable & Gambrel Roof Framing**  
**Rafter Layout**

Names: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Foreman: \_\_\_\_\_

Due Date \_\_\_\_\_

**COMPETENCIES :**

**Industrial Technology Construction (Senate file 449)**

- Occupational 1
- Occupational 2
- Occupational 3
- Occupational 6
- Occupational 8
- Occupational 9
- Occupational 11
- Occupational 16
- Occupational 17
- Occupational 19
- Occupational 34

**Scans Foundation Skills**

- F1 Reading
- F2 Writing
- F3 Arithmetic
- F4 Mathematics
- F5 Listening
- F9 Problem Solving
- F11 Knowing How to Learn
- F12 Reasoning
- F13 Responsibility
- F14 Self Esteem
- F16 Self Management
- C1 Manages Time
- C5 Acquires and Evaluates Information
- C7 Interprets Information

**ASSIGNMENT LANGUAGE:**

- Time limit (2 hours)
- Safe working environment
- Working as a team unit
- Roofing terminology: Span, rise, run, ridge board, slope, projection, measuring line, plumb cut, level cut, birds mouth, total rise

**MATERIALS & EQUIPMENT:**

- 2"x4" at least 4' long
- framing square with rafter table
- tape measure

**SAFETY CONSIDERATIONS:**

- Conduct yourself in a safe and appropriate manner.
- Wear appropriate safety attire.

- Follow all safety rules and regulations with tools and equipment.
- Completion of safety test for appropriate tools.

### **ACTIVITY:**

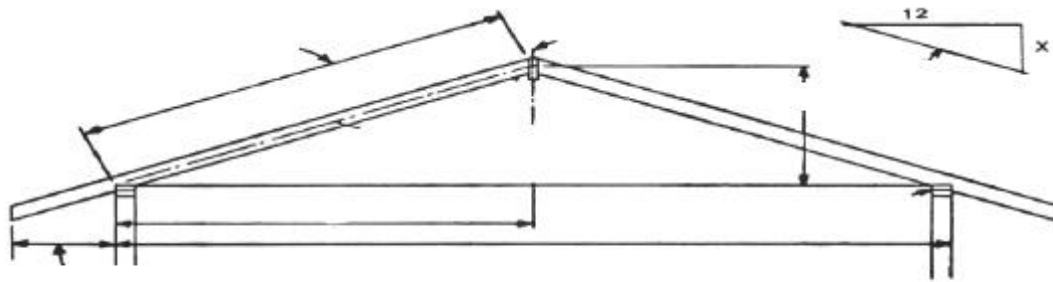
- Student will safely, correctly and accurately layout a common rafter
- Layout a common rafter for a roof with the following dimensions
- Span of roof 6'-0"
- Slope, 3 /12
- Ridge board 2"x6"
- Projection, 0'-6"
- Rafter length in feet (inches/feet of run) x (feet of run + projection) feet/12"

### **PROCEDURE:**

1. Obtain appropriate materials and tools
2. Determine measuring line (rafter length)
3. Layout correct distance along measuring line and give yourself enough room for plumb cut at ends.
4. Draw cut line for ridge board and seat cut on bird's mouth.
5. Draw cut line for level cut on birds mouth
6. Layout and draw plumb cut for overhang
7. Have instructor evaluate activity
8. Clean and store all materials and equipment

Label the parts in the diagram below - 10 points

- A.
- B.
- C.
- D.
- E.
- F.
- G.



**EVALUATION:**

<b>SUMMATIVE RUBRIC EVALUATION</b>							
<b>Description</b>	<b>Rating Scale</b>						<b>Earned</b>
Plumb cut parallel - 1 point	0	1	2	3	4	5	
Total length of rafter - 5 points	0	1	2	3	4	5	
Correct layout of bird mouth - 5 points	0	1	2	3	4	5	
Tail cut to birds mouth distance - 3 points	0	1	2	3	4	5	
Crown properly - 1 point	0	1	2	3	4	5	
Correct slope - no tolerance - 5 points	0	1	2	3	4	5	
Materials put away properly - 5 points	0	1	2	3	4	5	
Shop area clean - 5 points	0	1	2	3	4	5	
Meets timeline - 5 points	0	1	2	3	4	5	
Work safely and cooperatively - 5 points	0	1	2	3	4	5	
Correct labeling of above drawing - 10 points	5	6	7	8	9	10	
Possible Points - 50	Total Earned						

<b>FORMATIVE RUBRIC EVALUATION</b>		
<b>Description</b>	<b>Points Possible</b>	<b>Point Earned</b>
Leadership of team	+-10	
Teamwork, individual as a part of the team, using strengths to enhance efficiency	25	
Individual stays on task entire lab time	15	
Individual conducts himself/herself in safe manner and has a well being for others	15	
Uses materials and equipment appropriately	15	
Cleans up work area and stores materials and equipment properly	15	
Timeliness: Completes activity on time	15	
<b>TOTAL</b>	<b>100</b>	