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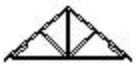
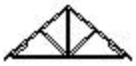
Continuing Education Course #043
Introduction to the Design of Wood Trusses

1. What is a truss?
- a. A series of structural members assembled in the shape of rectangles.
- b. A series of structural members assembled in the shape of triangles.
- c. A solid structural member.
- d. A prefabricated wall.

2. If a pitch were given as 12:12, the equivalent angle above horizontal would be what angle?
- a. 15°.
- b. 30°.
- c. 45°.
- d. 60°.

3. Which picture best describes an attic truss?
- a. 
- b. 
- c. 
- d. 

4. Which picture best describes a vaulted truss?
- a. 
- b. 
- c. 
- d. 

5. Which person or companies are NOT described under Chapter 2 of ANSI/TPI-1 2002?
- a. Building Designer.
- b. Truss Designer.

- ○ c. Inspector
- ○ d. Contractor.

6. Why is proper truss bracing so important?
- ○ a. The trusses act as long slender columns.
- ○ b. The members can buckle out of plane.
- ○ c. There can be a structural collapse if the trusses are not properly braced.
- ○ d. All of the above.

7. Certain members may develop large compressive forces causing the truss member to need a lateral restraint. In a run of similar trusses, does this lateral restraint require periodic diagonal bracing?
- ○ a. Yes.
- ○ b. No.

8. The best method for determining the design loads for roof girder trusses is to do a tributary area calculation.
- ○ a. True.
- ○ b. False.

9. According to TPI-1 2002 section 7.4.5, at what number of plies are bolts required to be used in addition to other connectors such as nails?
- ○ a. 2-plies.
- ○ b. 3-plies.
- ○ c. 4-plies.
- ○ d. 5-plies.

10. What is the most common limiting factor for common roof girder trusses?
- ○ a. Shear failure.
- ○ b. Bearing capacity.
- ○ c. Deflection.
- ○ d. Size.

11. What is a common limiting factor for floor girder trusses?
- ○ a. Shear failure.
- ○ b. Bearing capacity.
- ○ c. Deflection.
- ○ d. Size.

12. Unlike steel and concrete, wood construction is more susceptible to:
- ○ a. Defects.
- ○ b. Insects.
- ○ c. Excessive heat.
- ○ d. All of the above.

13. For heavy loads on the end of a floor truss cantilever, the recommended anchor span should be at least:
- ○ a. 3x the depth of the floor truss.
- ○ b. 4x the depth of the floor truss.
- ○ c. 3x the cantilever span.
- ○ d. 4x the cantilever span.

14. In a floor truss system, a strong back is recommended:
- ○ a. To brace the bottom chord of the truss.
- ○ b. To reduce deflection and vibrations.

○ c. To provide material for the attachment of mechanical items.
○ d. All of the above.

15. The recommended maximum attic room width for an attic frame with a 2x10 SYP bottom chord is:
○ a. 17’-0”
○ b. 18’-0”
○ c. 19’-0”
○ d. 20’-0”

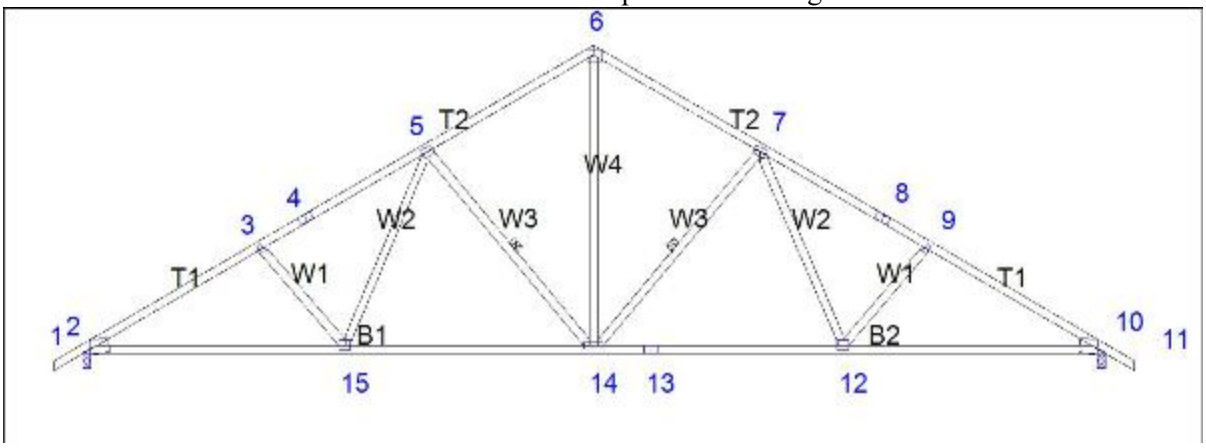
16. What is 308 FIS notation in terms of Architectural Units?
○ a. 30 ½”
○ b. 308”
○ c. 3’-8”
○ d. 3 ½”

17. What is 2.5 FIS notation in terms of Architectural Units?
○ a. 2’-6”
○ b. 2 $^{5}/_{16}$”
○ c. 2 ½”
○ d. 25”

18. When a truss member fails the structural analysis, what are some options the truss technician has to get the member to pass the structural analysis?
○ a. Increase the size or grade of the member.
○ b. Stack the member.
○ c. Scab additional lumber on to the side.
○ d. All of the above.

19. What is the most important aspect of a truss technician’s job?
○ a. Determining the correct profile of the trusses.
○ b. Assuring that the design loads are correct.
○ c. Manufacturing the trusses within tolerance.
○ d. Inspecting the trusses after they have been erected.

20. This truss is to be fabricated in a multi bladed saw facility. The truss facility has a policy of picking lumber at the next integer size at the 11” increment. The initial web member lengths are W1= 5-1-14, W2 = 6-11-14, and W3 = 8 -11-15. All dimensions are in FIS notation. What is the optimal web design?



○ a. Use the initial web lengths.
○ b. Shift Joints 3 & 5 to the right. New web lengths: W1 = 4-6-3, W2 = 7-5-1, W3 = 8-10-10

- ○ c. Shift Joints 5 &15 to the left. New web lengths: W1 = 4-10-3, W2 = 6-5-14, W3 = 9-2-9
- ○ d. Shift Joints 3 & 15 to the right and Joint 5 to the left. New web lengths: W1 = 4-9-10, W2 = 5-10-7, W3 = 9-5-2