Carpentry & Building Construction

Chapter 17 Basic Roof Framing

Section 17.1 Assessment Answers

1. The basic roof styles used for homes and small buildings are gable, hip, low-slope, and shed.
2. The gambrel roof is a variation of the gable roof.
3. Any line that is vertical when the rafter is in its proper position is called a plumb line. Any line that is horizontal when the rafter is in its proper position is called a level line.
4. It allows the carpenter to know what type of rafters will be needed.
5. 1/3 × 24 = 8; 8/12 is the slope

Section 17.2 Assessment Answers

1. Ceiling joists that have been fastened in place.
2. The square of the hypotenuse of a right triangle is equal to the sum of the squares of the other two sides.
3. The heel cut bears against the side of the plate. The seat cut bears on the top of the plate.
4. It is important not to overcut when making the bird's mouth.
5. The step-off method for finding the theoretical rafter length involves using the framing square to "step off" the length. Place the square on the rafter with the tongue along the plumb cut. Step off the length of the unit run on the rafter stock as many times as there are feet in the total run. This will give the theoretical length of the rafter.

Section 17.3 Assessment Answers

1. Roof and ceiling loads.
2. Ceiling joists are usually placed across the width of the building and parallel to the rafters.
3. At least 2".
4. They are fastened to the side with joist hangers.
5. A flush girder is usually built up from the same stock used to frame the rest of the ceiling. It can also be a glulam or LVL beam. Instead of resting on top of the girder, ceiling joists are fastened to the side with joist hangers. Joist hangers are nailed to the girder with 10d or larger nails and to the joist with joist hanger nails. It is often easiest to fasten the hangers to the ends of the joists before raising the joists into place.

Section 17.4 Assessment Answers

1. Avoid placing unusual stresses on them.
2. Completed trusses can be raised into place by hand or by crane. Because a large truss can be heavy and awkward to handle, a crane is the preferred method.
3. Trusses must be braced as soon as they are placed.
4. Trusses should be braced with lumber standoffs anchored to stakes driven into the ground.
5. Presentations will vary.