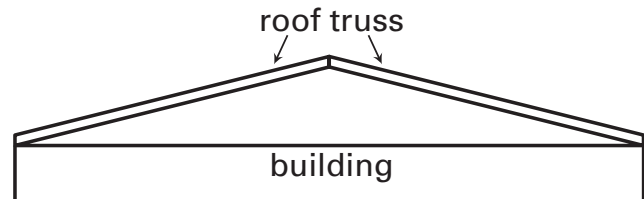


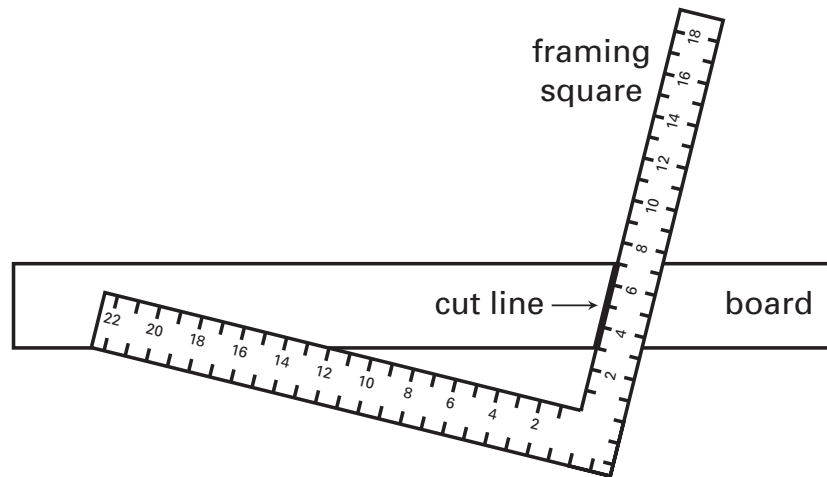
Application Lesson Opener

For use with pages 567–572

The roof truss shown is formed by two boards joined at the top.



A carpenter uses a framing square to cut each board for the truss.



1. The carpenter places the framing square on a board at the inside measurements of 12 inches and 3 inches. Then the carpenter draws a line on the board along the inside of the framing square. This is the cut line. Sketch the right triangle formed by the framing square and the edge of the board. On the triangle you sketched, label the acute angle that is away from the cut line $\angle A$.
2. Angle A and the angle formed by the roof truss and the building have the same measure. You can use the measurements 3 inches and 12 inches to find that angle measure. First write a trigonometric ratio using the triangle from Exercise 1. Then find $m\angle A$ using the Table of Trigonometric Ratios on page 845.
3. For another roof truss, the carpenter uses 5 inches and 12 inches as inside measurements. Will this roof be *steeper* or *flatter*? Explain.