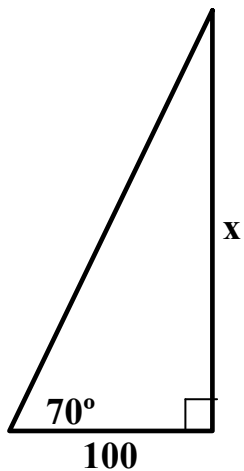


General Algebra II Worksheet #4 Unit 13 Selected Solutions

Solve each of the following problems. Show your complete solution, including an appropriate diagram, neatly organized in the space provided. All answers should be rounded to the nearest tenth.

2. A guy wire goes from the top of a vertical pole to a point that is 100 feet from the base of the pole on level ground. If the wire makes an angle of 70 degrees with the ground, then how tall is the pole?



Use the tangent ratio.

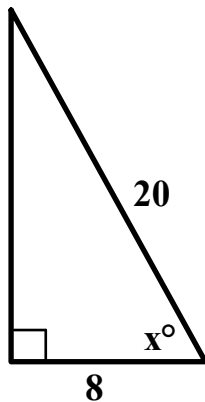
$$\tan 70^\circ = \frac{x}{100}$$

$$x = 100 \tan 70^\circ$$

$$x \approx 274.7$$

The pole is about 274.7 feet tall.

4. A ladder that is 20 feet long leans up against a vertical wall. If the foot of the ladder is 8 feet from the wall on level ground, then what is the angle between the ladder and the ground?



Use the cosine ratio.

$$\cos x^\circ = \frac{8}{20}$$

$$x = \cos^{-1}\left(\frac{2}{5}\right)$$

$$x \approx 66.4^\circ$$

The angle is about 66.4 degrees.