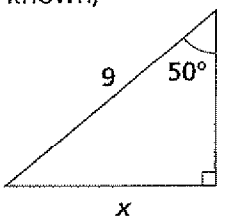
Trigonometric Ratios

EXAMPLE

Find the value of x, using trigonometric (trig) ratios.

Step 1 Set up an equation using the appropriate trig ratio. Since the side opposite from the given angle and the hypotenuse are known, use the sine (or sin) ratio.

$\sin 50° = \frac{x}{9}$



Step 2 Using a calculator, find and substitute the sine value.

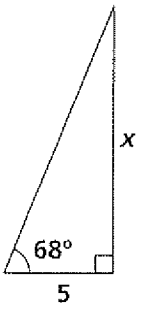
$0.766 = \frac{x}{9}$

Step 3 Solve for x.

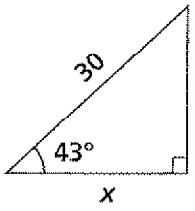
$x = 6.894$ or approximately 6.9 units.

Directions Find the value of x to the nearest tenth. Use a calculator.

1. _____



2. _____



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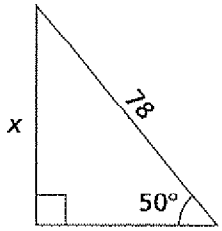

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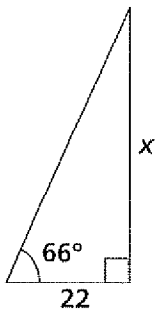

Directions Solve the problem.

5. On a summer afternoon, a smokestack casts an 8-meter shadow. At this time of day, rays from the sun are striking the ground at an angle of 75°. To the nearest tenth of a meter, how high is the smokestack?

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