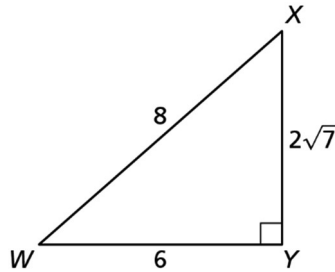


# 9.6

## Extra Practice

In Exercises 1 and 2, determine which of the two acute angles has the given trigonometric ratio.

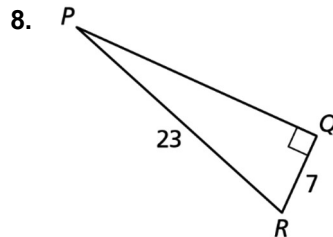
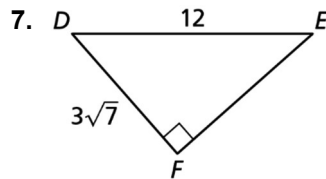
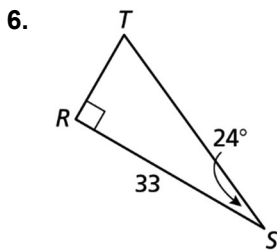
- The cosine of the angle is  $\frac{3}{4}$ .
- The tangent of the angle is  $\frac{3\sqrt{7}}{7}$ .



In Exercises 3–5, let  $\angle H$  be an acute angle. Use technology to approximate  $m\angle H$ .

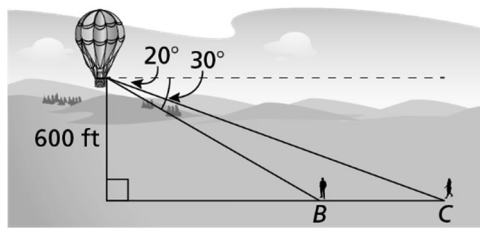
- $\sin H = 0.41$
- $\cos H = 0.05$
- $\tan H = 5.18$

In Exercises 6–8, solve the right triangle.



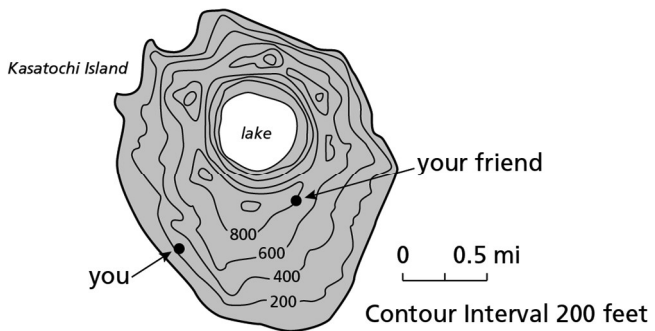
9. You are in a hot air balloon that is 600 feet above the ground. You can see two people. The angles of depression to person B and to person C are  $30^\circ$  and  $20^\circ$ , respectively.

- How far is person B from the point on the ground below the hot air balloon?
- How far is person C from the point on the ground below the hot air balloon?
- How far apart are the two people?



10. On a *typographic map*, the contour lines show changes in elevation of the land. You and a friend are hiking on Kasatochi Island.

- Find the difference in elevation (in miles) between you and your friend.
- Use a ruler to find the horizontal distance (in miles) between you and your friend.
- What is the angle of elevation from you to your friend?





## Puzzle Time

### What Is The Worst Thing To Make In Pottery Class?

Circle the letter of each correct answer in the boxes below. The circled letters will spell out the answer to the riddle.

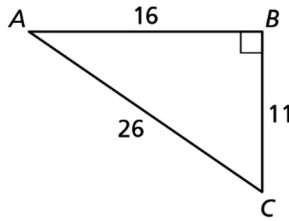
Complete the following.

- The inverses of the trigonometric ratios sine, cosine, and tangent permit you to find the measurement of an angle. True or false?
- To solve a right \_\_\_\_\_ means to find the measures of all of its sides and angles.
- You can solve a right triangle when you know either of the following: (1) two side lengths; (2) one side length and the measure of one acute angle. Yes or no?

Determine which of the two acute angles has the given trigonometric ratio.

4. The cosine of the angle is  $\frac{8}{13}$ .

5. The sine of the angle is  $\frac{8}{13}$ .



Let  $\angle A$ ,  $\angle B$ , and  $\angle C$  be acute angles. Use technology to approximate the measure of the indicated angle to the nearest tenth of a degree.

6.  $m\angle B = \tan^{-1} 0.52$

7.  $m\angle A = \sin^{-1} 0.38$

8.  $m\angle C = \cos^{-1} 0.74$

S	H	M	U	S	I	N	S
no	$\angle B$	triangle	27.7	false	22.3	angle	$\angle A$
T	N	A	K	R	E	S	E
27.5	33.5	42.3	true	22.6	yes	$\angle C$	42.4