

## Practice

## Solving Right Triangles

Solve each equation if  $0^\circ \leq x \leq 360^\circ$ .

1.  $\cos x = \frac{\sqrt{2}}{2}$

2.  $\tan x = 1$

3.  $\sin x = \frac{1}{2}$

Evaluate each expression. Assume that all angles are in Quadrant I.

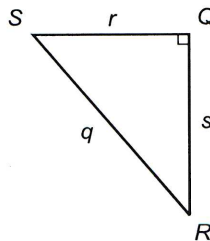
4.  $\tan\left(\tan^{-1}\frac{\sqrt{3}}{3}\right)$

5.  $\tan\left(\cos^{-1}\frac{2}{3}\right)$

6.  $\cos\left(\arcsin\frac{5}{13}\right)$

Solve each problem. Round to the nearest tenth.

7. If  $q = 10$  and  $s = 3$ , find  $S$ .



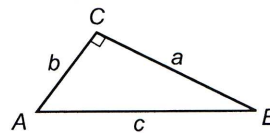
8. If  $r = 12$  and  $s = 4$ , find  $R$ .

9. If  $q = 20$  and  $r = 15$ , find  $S$ .

Solve each triangle described, given the triangle at the right. Round to the nearest tenth, if necessary.

10.  $a = 9, B = 49^\circ$

11.  $A = 16^\circ, c = 14$



12.  $a = 2, b = 7$

13. **Recreation** The swimming pool at Perris Hill Plunge is 50 feet long and 25 feet wide. The bottom of the pool is slanted so that the water depth is 3 feet at the shallow end and 15 feet at the deep end. What is the angle of elevation at the bottom of the pool?