HOMEWORK KEY

○ = **WORKED-OUT SOLUTIONS**
on p. WS1 for Exs. 5, 11, and 33

⬟ = **TAKS PRACTICE AND REASONING**
Exs. 15, 20, 33, 36, 38, and 39

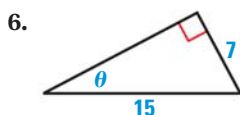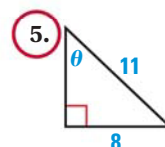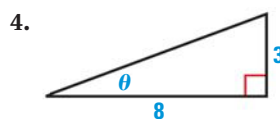◆ = **MULTIPLE REPRESENTATIONS**
Ex. 34

SKILL PRACTICE

1. **VOCABULARY** What is an angle of elevation?

2. **WRITING** *Explain* what it means to solve a right triangle.

EXAMPLE 1
on p. 852
for Exs. 3–8

EVALUATING FUNCTIONS Evaluate the six trigonometric functions of the angle θ.

3.

4.

5.

6.

7.

8.

EXAMPLE 2
on p. 853
for Exs. 9–16

FINDING VALUES Let θ be an acute angle of a right triangle. Find the values of the other five trigonometric functions of θ.

9. $\sin \theta = \dfrac{5}{6}$

10. $\cos \theta = \dfrac{5}{8}$

11. $\tan \theta = \dfrac{7}{3}$

12. $\csc \theta = \dfrac{10}{7}$

13. $\sec \theta = \dfrac{12}{5}$

14. $\cot \theta = \dfrac{6}{11}$

15. ⬟ **TAKS REASONING** In a right triangle, θ is an acute angle and $\cos \theta = \dfrac{4}{9}$. What is the value of $\tan \theta$?

Ⓐ $\dfrac{4\sqrt{65}}{65}$ Ⓑ $\dfrac{\sqrt{65}}{9}$ Ⓒ $\dfrac{\sqrt{65}}{4}$ Ⓓ $\dfrac{9}{4}$
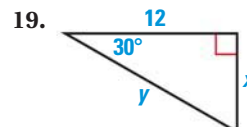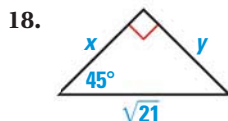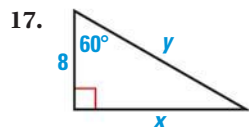
16. **ERROR ANALYSIS** *Describe* and correct the error in finding $\csc \theta$, given that θ is an acute angle of a right triangle and $\cos \theta = \dfrac{7}{11}$.

$$\csc \theta = \frac{1}{\cos \theta} = \frac{11}{7} \quad ✗$$

EXAMPLE 3
on p. 854
for Exs. 17–20

FINDING SIDE LENGTHS Find the exact values of x and y.

17.

18.

19.

20. ⬟ **TAKS REASONING** In a 30°-60°-90° triangle, the longer leg has a length of 5. What is the length of the shorter leg?

Ⓐ $\dfrac{5\sqrt{3}}{3}$ Ⓑ $\dfrac{5\sqrt{3}}{2}$ Ⓒ $\dfrac{10\sqrt{3}}{3}$ Ⓓ $5\sqrt{3}$