7-2 **Practice**

The Pythagorean Theorem and Its Converse

This is a Quiz Review, Quiz will be Monday 3/9/15!
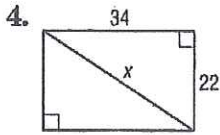
You MUST show work to receive Credit!

Find x.

1. *skip*

x / 23 / 13

2. *skip*

34 / 21 / x

3. *skip*

26 / x / 26 / 18

4.

34 / x / 22

5.

16 / x / 14

6.

24 / x / 24 / 42
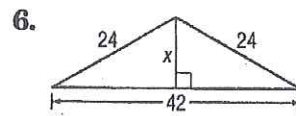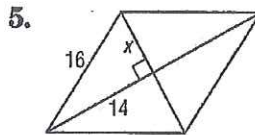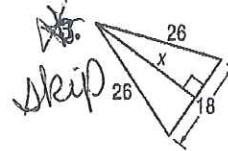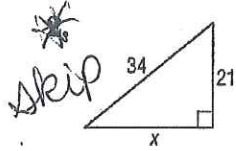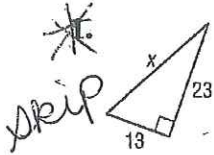
Determine whether $\triangle GHI$ is a right triangle for the given vertices. Explain.

7. $G(2, 7), H(3, 6), I(-4, -1)$

8. $G(-6, 2), H(1, 12), I(-2, 1)$

9. $G(-2, 1), H(3, -1), I(-4, -4)$

Skip

10. $G(-2, 4), H(4, 1), I(-1, -9)$

skip

Determine whether each set of measures can be the measures of the sides of a right triangle. Then state whether they form a Pythagorean triple.
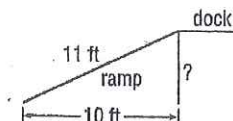
11. 9, 40, 41

12. 7, 28, 29

13. 24, 32, 40

14. $\frac{9}{5}, \frac{12}{5}, 3$

15. $\frac{1}{3}, \frac{2\sqrt{2}}{3}, 1$

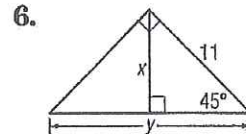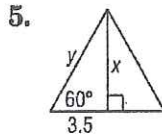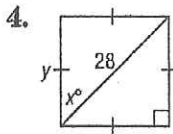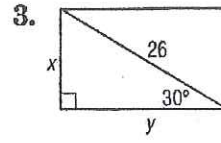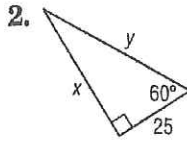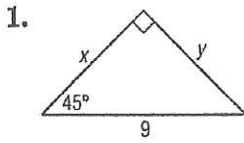16. $\frac{\sqrt{4}}{7}, \frac{2\sqrt{3}}{7}, \frac{4}{7}$

17. **CONSTRUCTION** The bottom end of a ramp at a warehouse is 10 feet from the base of the main dock and is 11 feet long. How high is the dock?
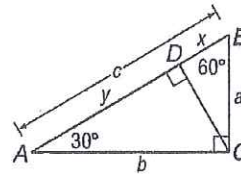
dock / 11 ft / ramp / ? / 10 ft

7-3 Practice

Special Right Triangles

Find x and y.

1.

2.

3.

4.

5.

6.

For Exercises 7–9, use the figure at the right.

7. If $a = 4\sqrt{3}$, find b and c.

8. If $x = 3\sqrt{3}$, find a and CD.

9. If $a = 4$, find CD, b, and y.

10. The perimeter of an equilateral triangle is 39 centimeters. Find the length of an altitude of the triangle.

11. $\triangle MIP$ is a 30°-60°-90° triangle with right angle at I, and $\overline{IP}$ the longer leg. Find the coordinates of M in Quadrant I for $I(3, 3)$ and $P(12, 3)$.

Skip

12. $\triangle TJK$ is a 45°-45°-90° triangle with right angle at J. Find the coordinates of T in Quadrant II for $J(-2, -3)$ and $K(3, -3)$.

Skip

13. **BOTANICAL GARDENS** One of the displays at a botanical garden is an herb garden planted in the shape of a square. The square measures 6 yards on each side. Visitors can view the herbs from a diagonal pathway through the garden. How long is the pathway?