

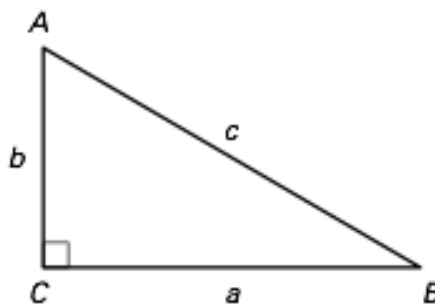
Geometry

Review 7. 1- 7.3

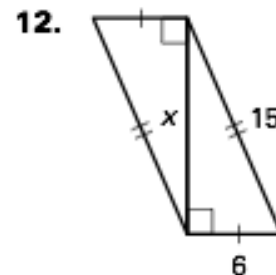
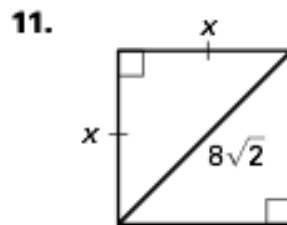
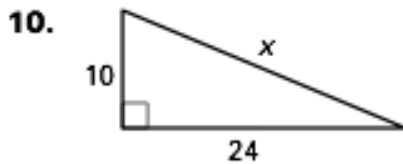
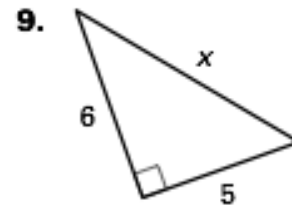
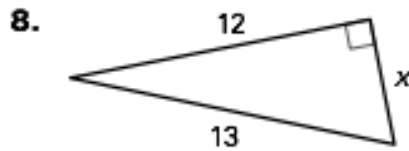
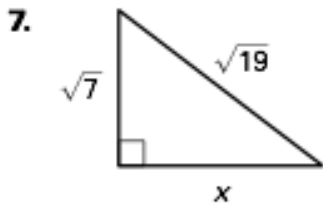
Name _____

Use $\triangle ABC$ to determine if the equation is *true* or *false*.

1. $b^2 + a^2 = c^2$
2. $c^2 - a^2 = b^2$
3. $b^2 - c^2 = a^2$
4. $c^2 = a^2 - b^2$
5. $c^2 = b^2 + a^2$
6. $a^2 = c^2 - b^2$



Find the unknown side length. Simplify answers that are radicals.
Tell whether the side lengths form a Pythagorean triple.



The given lengths are two sides of a right triangle. All three side lengths of the triangle are integers and together form a Pythagorean triple. Find the length of the third side and tell whether it is a leg or the hypotenuse.

13. 40 and 41

14. 12 and 35

15. 63 and 65

16. 28 and 45

17. 56 and 65

18. 20 and 29

19. 80 and 89

20. 48 and 55

21. 65 and 72

Find the area of a right triangle with given leg ℓ and hypotenuse h . Round decimal answers to the nearest tenth.

22. $\ell = 8$ m, $h = 16$ m

23. $\ell = 9$ yd, $h = 12$ yd

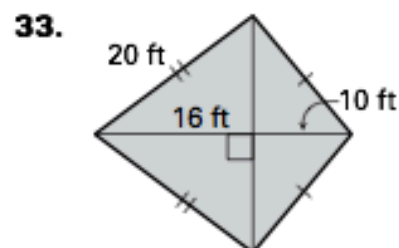
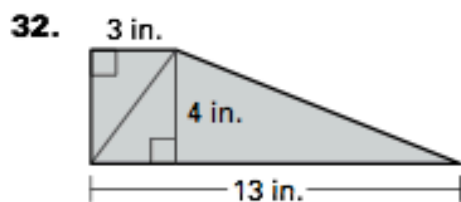
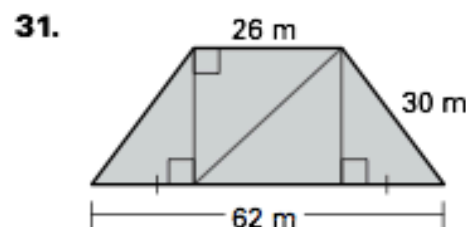
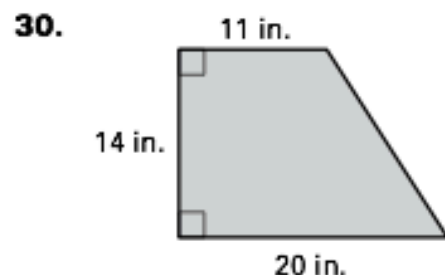
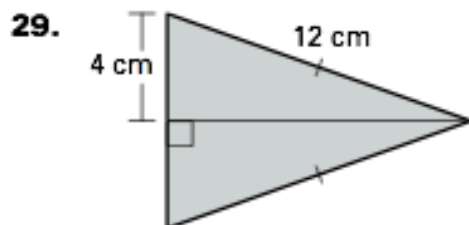
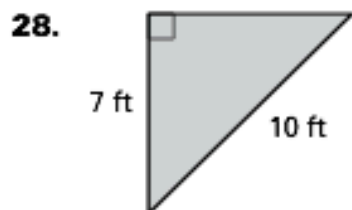
24. $\ell = 3.5$ ft, $h = 9$ ft

25. $\ell = 9$ mi, $h = 10$ mi

26. $\ell = 21$ in., $h = 29$ in.

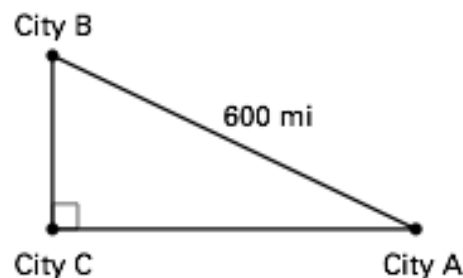
27. $\ell = 13$ cm, $h = 17$ cm

Find the area of the figure. Round decimal answers to the nearest tenth.



34. **Softball** In slow-pitch softball, the distance of the paths between each pair of consecutive bases is 65 feet and the paths form right angles. Find the distance the catcher must throw a softball from 3 feet behind home plate to second base.

35. **Flight Distance** A small commuter airline flies to three cities whose locations form the vertices of a right triangle. The total flight distance (from city A to city B to city C and back to city A) is 1400 miles. It is 600 miles between the two cities that are furthest apart. Find the other two distances between cities.



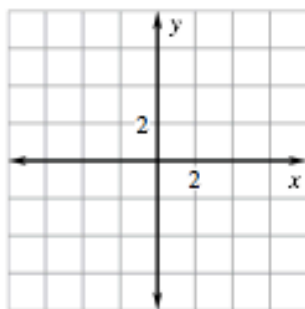
LESSON
7.2

Decide whether the numbers can represent the side lengths of a triangle. If they can, classify the triangle as *right*, *acute*, or *obtuse*.

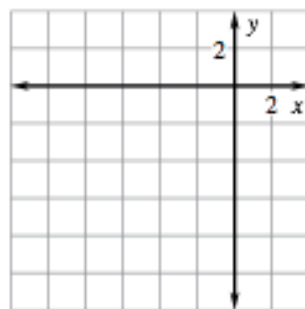
- | | | |
|---------------|-------------------------|---------------|
| 1. 5, 12, 13 | 2. $\sqrt{8}$, 4, 6 | 3. 20, 21, 28 |
| 4. 15, 36, 39 | 5. $\sqrt{13}$, 10, 12 | 6. 14, 48, 50 |

Graph points *A*, *B*, and *C*. Connect the points to form $\triangle ABC$. Decide whether $\triangle ABC$ is *right*, *acute*, or *obtuse*.

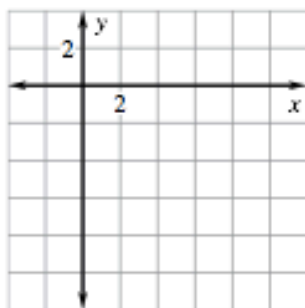
7. $A(-3, 5)$, $B(0, -2)$, $C(4, 1)$



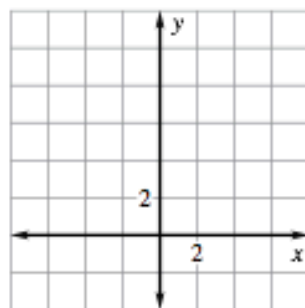
8. $A(-8, -4)$, $B(-5, -2)$, $C(-1, -7)$



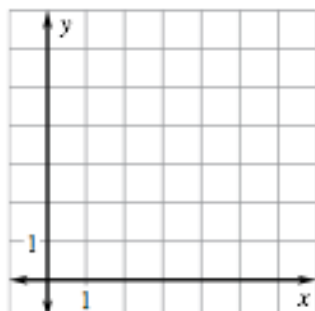
9. $A(4, 1)$, $B(7, -2)$, $C(2, -4)$



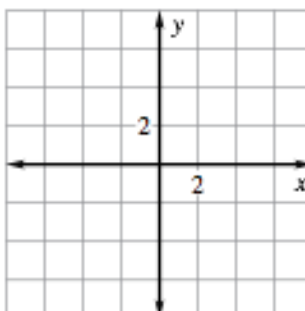
10. $A(-2, 2)$, $B(6, 4)$, $C(-4, 10)$



11. $A(0, 5)$, $B(3, 6)$, $C(5, 1)$



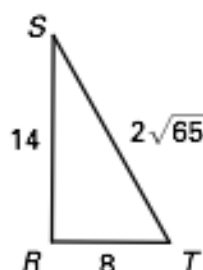
12. $A(-2, 4)$, $B(2, 0)$, $C(5, 2)$



In Exercises 13 and 14, copy and complete the statement with $<$, $>$, or $=$, if possible. If it is not possible, explain why.

13. $m\angle J$? $m\angle R$

14. $m\angle K + m\angle L$? $m\angle S + m\angle T$



The sides and classification of a triangle are given below. The length of the longest side is the integer given. What value(s) of x make the triangle?

15. $x, x, 8$; right

16. $x, x, 12$; obtuse

17. $x, x, 6$; acute

18. $x, x + 3, 15$; obtuse

19. $x, x - 8, 40$; right

20. $x + 2, x + 3, 29$; acute

In Exercises 21 and 22, use the diagram and the following information.

Roof The roof shown in the diagram at the right is shown from the front of the house.

The slope of the roof is $\frac{5}{12}$. The height of the roof is 15 feet.

21. What is the length from gutter to peak of the roof?



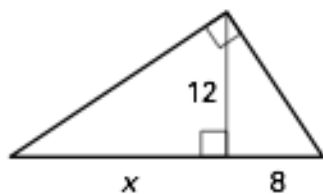
22. A row of shingles is 5 inches high. How many rows of shingles are needed for one side of the roof?



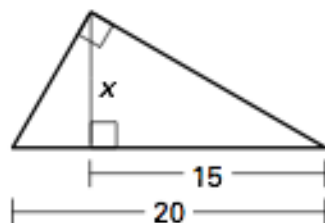
LESSON
7.3

Complete and solve the proportion.

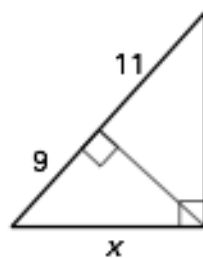
1. $\frac{x}{12} = \frac{?}{8}$



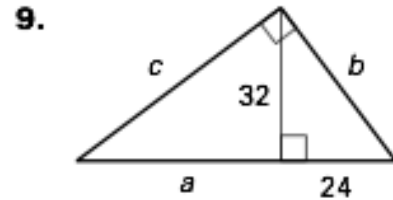
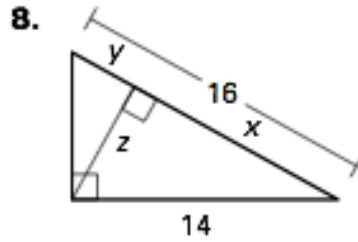
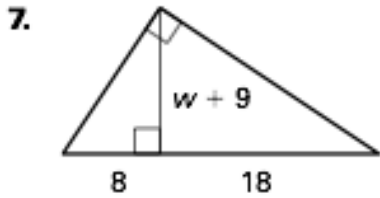
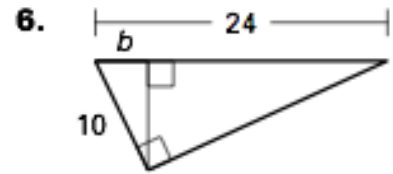
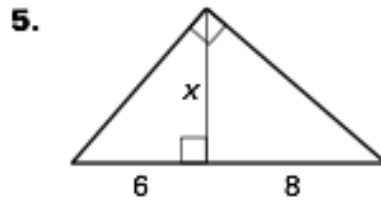
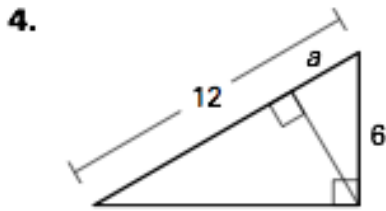
2. $\frac{15}{x} = \frac{x}{?}$



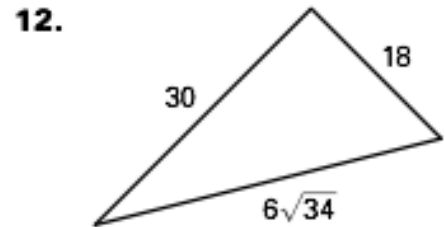
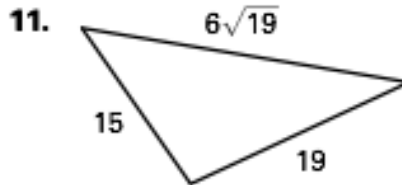
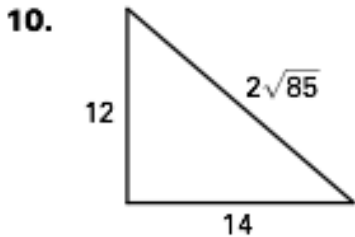
3. $\frac{9}{x} = \frac{x}{?}$



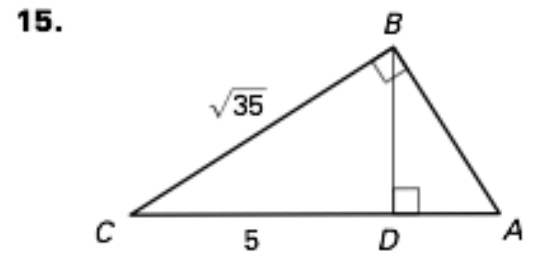
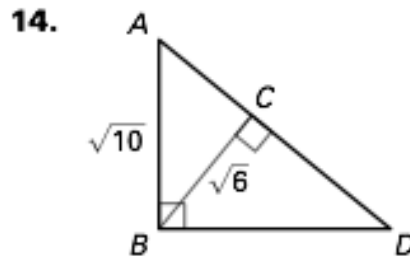
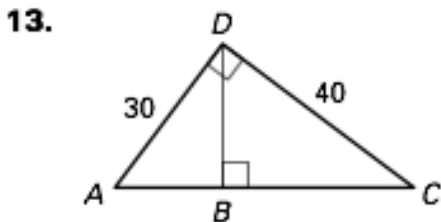
Find the value(s) of the variable(s).



Tell whether the triangle is a right triangle. If so, find the length of the altitude to the hypotenuse. Round decimal answers to the nearest tenth.



Use the Geometric Mean Theorems to find AC and BD .



Define the following terms completely.

1. Pythagorean Triple _____

2. Geometric Mean _____
