

Bellwork

01/06/2012

Decide whether the numbers can represent the sides lengths of a triangle. If yes, then classify the triangle as acute, right, or obtuse.

1. 10, 12, 30

2. 18, 34, 45

Name _____

Date _____

LESSON 7.1

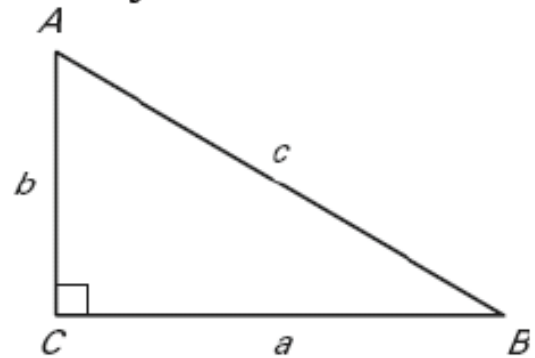
Practice B*For use with pages 432–439*Use $\triangle ABC$ to determine if the equation is *true or false*.

1. $b^2 + a^2 = c^2$

2. $c^2 - a^2 = b^2$

3. $c^2 = b^2 + a^2$

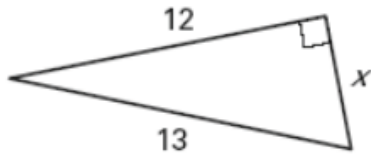
4. $a^2 = c^2 - b^2$



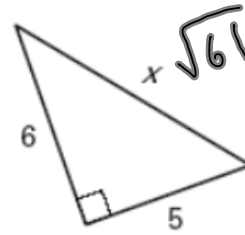
$$\begin{array}{r}
 a^2 + \cancel{b^2} = c^2 \\
 -\cancel{b^2} \quad -b^2 \\
 \hline
 a^2 = c^2 - b^2
 \end{array}$$

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

5.



6.



No!

$$x^2 = 6^2 + 5^2$$

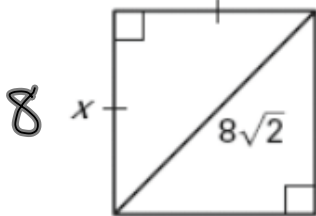
$$x^2 = 36 + 25$$

$$\sqrt{x^2} = \sqrt{61}$$

$$x = \sqrt{61}$$

7.

No!



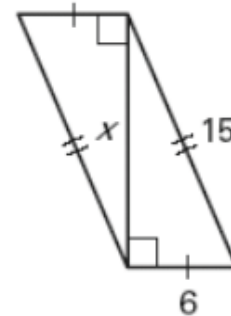
$$(8\sqrt{2})^2 = x^2 + x^2$$

$$\frac{128}{2} = \frac{2x^2}{2}$$

$$\sqrt{x^2} = \sqrt{64}$$

$$x = 8$$

8.



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.

9. 40 and 41

10. 12 and 35

11. 48 and 55

12. 65 and 72

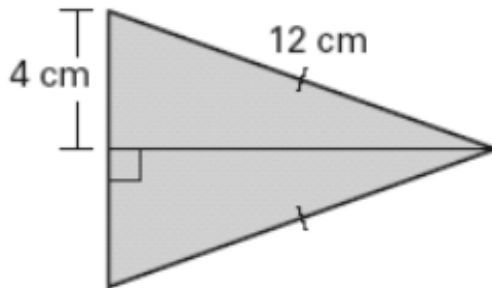
Find the area of a right triangle with given leg l and hypotenuse h . Round decimal answers to the nearest tenth.

13. $l = 21$ in., $h = 29$ in.

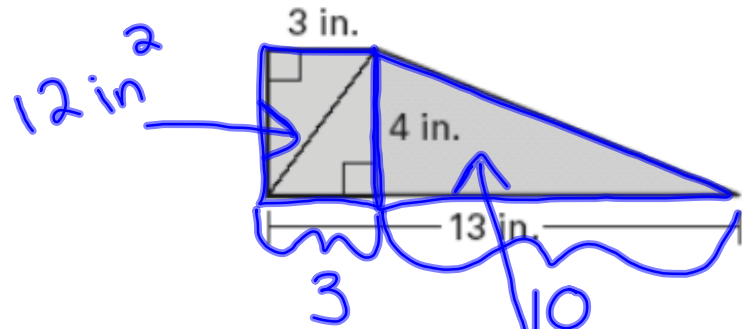
14. $l = 13$ cm, $h = 17$ cm

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

15.



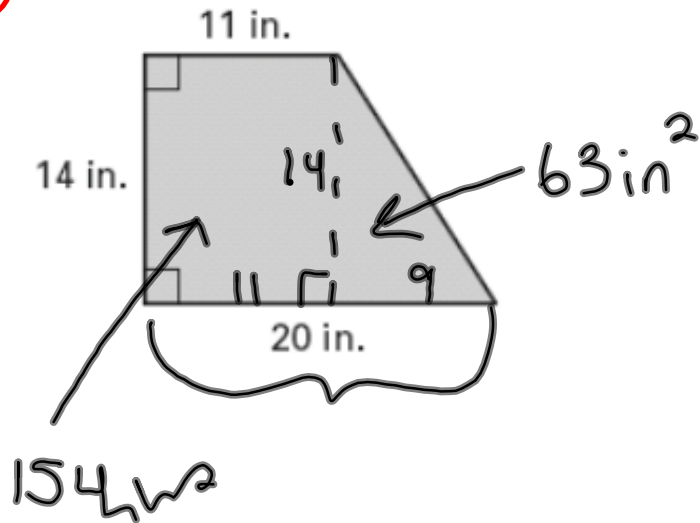
16.



$$\frac{4 \cdot 10}{2} = 20 \text{ in}^2$$

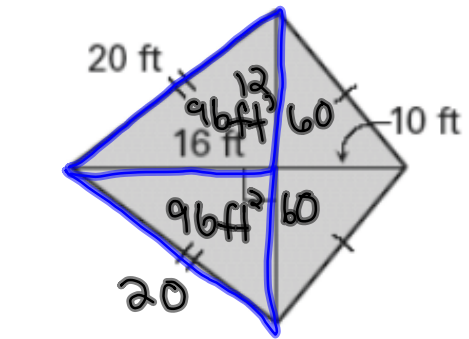
$$A = 32 \text{ in}^2$$

17.



$$A = 217 \text{ in}^2$$

18.



$$20^2 = 16^2 + b^2$$

$$400 = 256 + b^2$$

$$\sqrt{b^2} = \sqrt{144}$$

$$b = 12$$

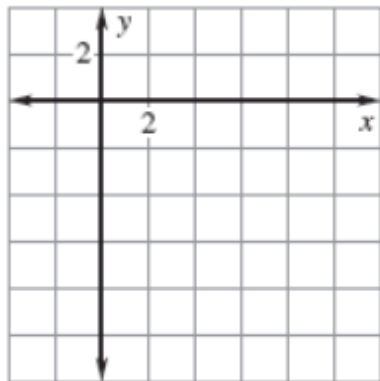
$$\frac{16 \cdot 12}{2} = 96$$

$$60 + 60 + 96 + 96$$

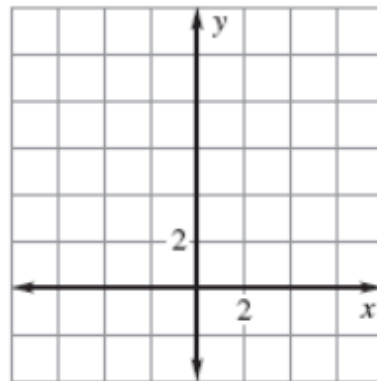
$$312 \text{ ft}^2$$

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

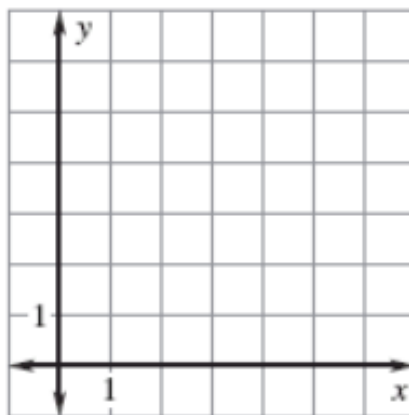
10. $A(4, 1)$, $B(7, -2)$, $C(2, -4)$



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



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



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 ft (*Note: Remember $\text{slope} = \frac{\text{rise}}{\text{run}}$*). *Hint: Find the base in order to find the hypotenuse!*

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

