

Warm up: p. 558

"Quiz 1"

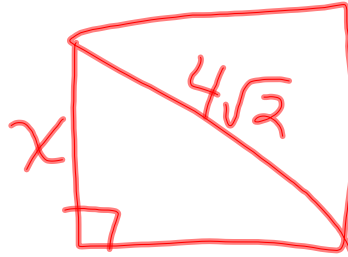
$$\frac{6\sqrt{2}}{2}$$

$$= 3\sqrt{2}$$

$$P = 40$$

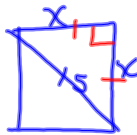
$$= 4(4)$$

$$= 16 \text{ in}$$



$$\frac{x\sqrt{2}}{\sqrt{2}} = \frac{4\sqrt{2}}{\sqrt{2}}$$
$$x = 4$$

16.



$$\frac{x\sqrt{2}}{\sqrt{2}} = \frac{15}{\sqrt{2}}$$

$$x = \frac{15}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$$
$$= \frac{15\sqrt{2}}{2}$$
$$= 10.6 \text{ in}$$

$$x^2 + x^2 = 15^2$$
$$\frac{2x^2}{2} = \frac{225}{2}$$
$$x^2 = 112.5$$
$$x = 10.6$$

$$18\sqrt{20} = \sqrt{2250}$$
$$= 2\sqrt{5}$$

A right-angled triangle with legs of length 2 and 5, and a hypotenuse of length 10.

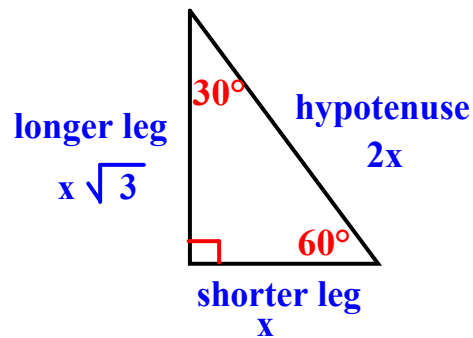
$$\frac{20 \cdot \sqrt{2} \cdot \sqrt{3} \cdot \sqrt{6}}{\sqrt{3} \cdot \sqrt{3}} = \frac{1}{3}$$

OBJECTIVE: You will learn to use the properties of 30° - 60° - 90° triangles.

Section 13-3

1-27-12

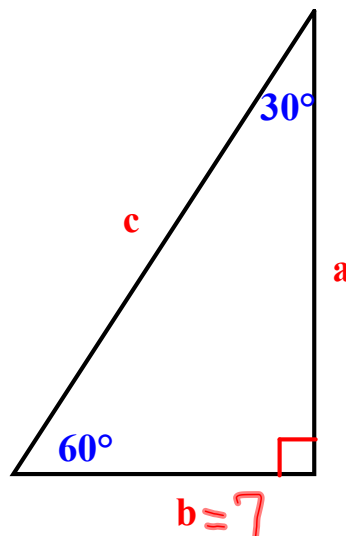
30° - 60° - 90° Triangle Theorem --In a 30° - 60° - 90° triangle, the hypotenuse is twice the length of the shorter leg and the longer leg is $\sqrt{3}$ times the length of the shorter leg.



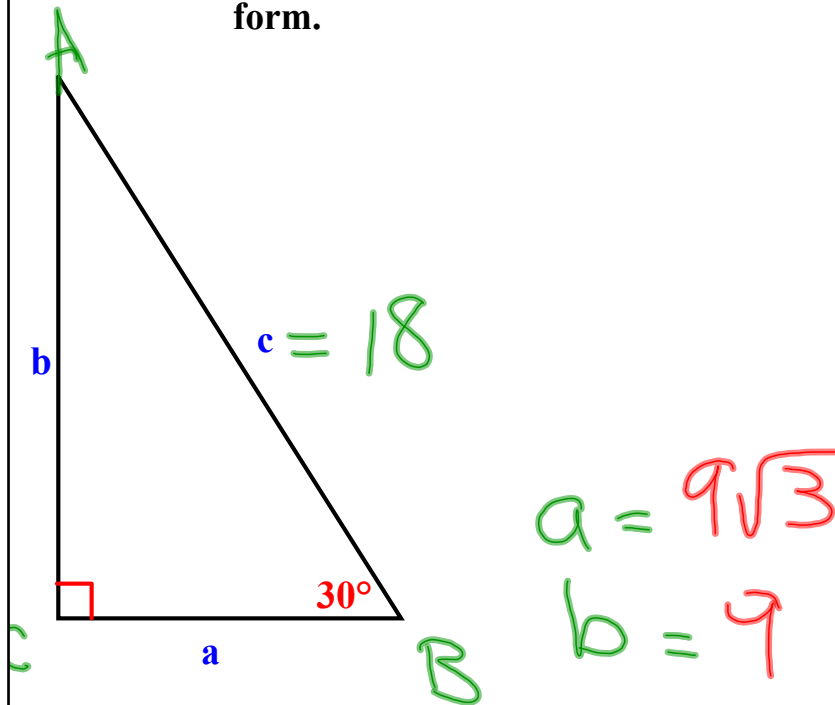
Example 1: In $\triangle ABC$, $b = 7$. Find a and c . Write in simplest form.

$$a = 7\sqrt{3}$$

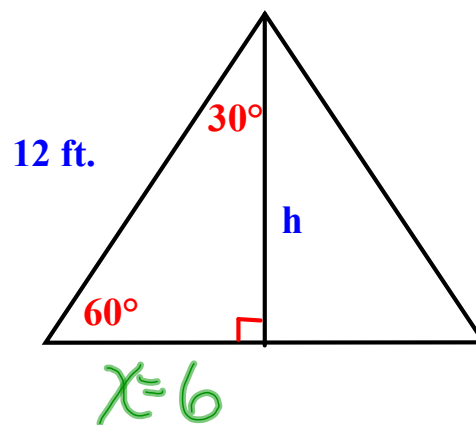
$$c = 14$$



Example 2: In $\triangle ABC$, $c = 18$. Find a and b . Write in simplest form.



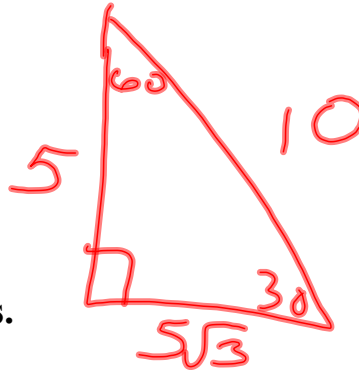
Example 3: Find the height of the equilateral triangle.



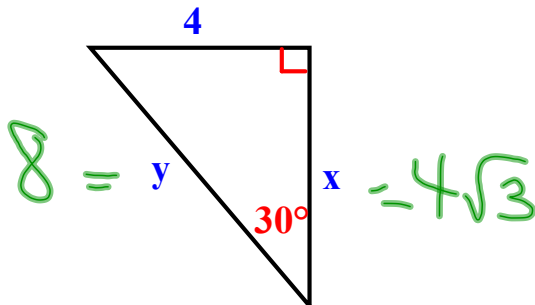
$$h = 6\sqrt{3}$$

Guided Practice:

1. Draw and label a 30° - 60° - 90° triangle in which the sides are 5 inches, 10 inches and $5\sqrt{3}$ inches.

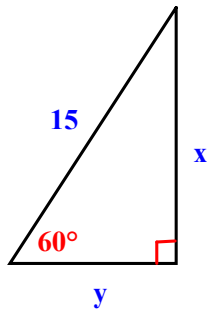


2. Find the missing measures.



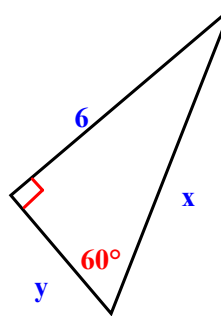
Find the missing measures.

3.



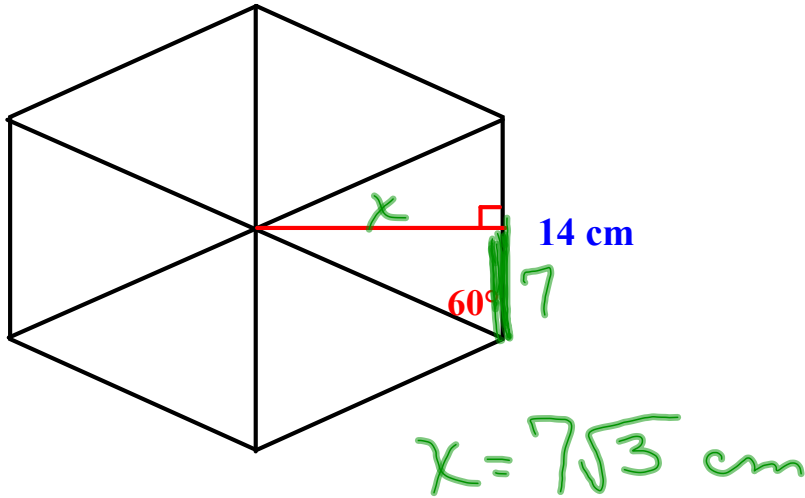
$$\begin{aligned} 2y &= 15 \\ y &= 7.5 \\ x &= 7.5\sqrt{3} \end{aligned}$$

4.



$$\begin{aligned} \frac{y\sqrt{3}}{\sqrt{3}} &= \frac{6}{\sqrt{3}} \\ y &= \frac{6\sqrt{3}}{\sqrt{3} \cdot \sqrt{3}} \\ &= \frac{6\sqrt{3}}{3} \\ y &= 2\sqrt{3} \\ x &= 4\sqrt{3} \end{aligned}$$

5. The hexagon is made of equilateral triangles. If the length of a side is 14 cm., what is the height of the triangle?



Do you have any Vocab questions?

OBJECTIVE:

HOMEWORK: p. 562 - 563

7 - 17, 20 - 24

*****Quiz next time over 13-1 and 13-2*****