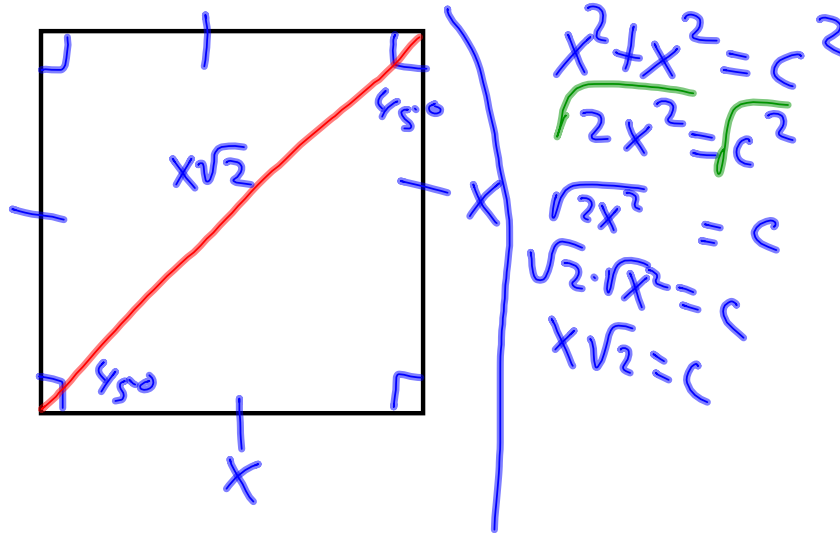


7-3 Day 1



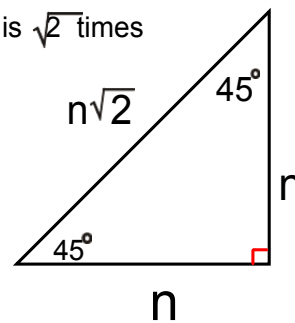
7-3 Special Right Triangles

45°-45°-90° Triangles

*An isosceles right triangle

*The length of the hypotenuse is $\sqrt{2}$ times the length of a leg

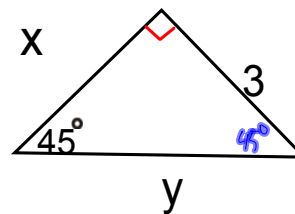
leg \rightarrow hypotenuse
 leg $\times \sqrt{2}$



Example 1:

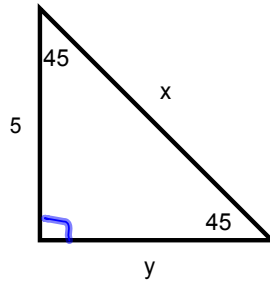
Find x and y .

$x = 3$
 $y = 3\sqrt{2}$



Find the missing sides

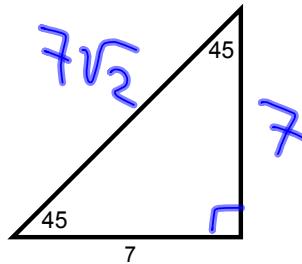
2.)



$$y = 5$$

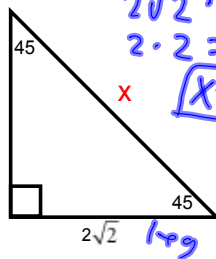
$$x = 5\sqrt{2}$$

3.)



Example 4:

Find x



$$2\sqrt{2} \cdot \sqrt{2}$$

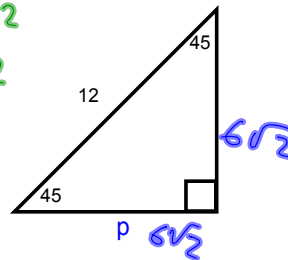
$$2 \cdot 2 = 4$$

$$x = 4$$

Example 5:

Find p

hypotenuse \rightarrow leg $\div \sqrt{2}$



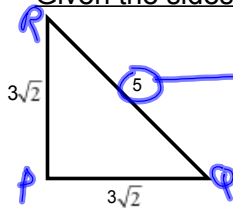
$$p = \frac{12 \cdot \sqrt{2}}{\sqrt{2} \cdot \sqrt{2}}$$

$$p = \frac{12\sqrt{2}}{2}$$

$$p = 6\sqrt{2}$$

Example 6:

Given the sides of the right triangle, is PQR a 45-45-90 triangle?



leg $\times \sqrt{2} =$ hypotenuse

$$3\sqrt{2} \cdot \sqrt{2} = 5$$

$$3 \cdot 2 = 5$$

$$6 \neq 5$$

No, it's not a 45-45-90 triangle.

Example 7:Find a .

hypotenuse $\rightarrow 1 \times 9$
 $\div \sqrt{2}$

$$a = \frac{8}{\sqrt{2}} \cdot \sqrt{2}$$

$$a = \frac{8\sqrt{2}}{\sqrt{2}}$$

$$a = 4\sqrt{2} \text{ in.}$$

