

Questions

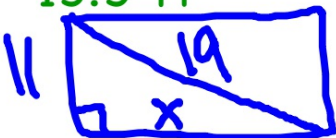
7.1 Practice – Round all answers to the nearest tenth, if necessary.

1. A painter leans a 15-ft ladder against a house. The base of the ladder is 5 ft from the house. How high on the house does the ladder reach?

14.1 ft

2. The size of a computer monitor is the length of its diagonal. You want to buy a 19-in monitor that has a height of 11 in. What is the width of the monitor?

15.5 ft




$11^2 + x^2 = 19^2$
 $121 + x^2 = 361$

$x^2 = \sqrt{200}$
 $x = 14.1$

3. You are designing dinnerware. You want to make a square plate that fits a 20 cm chopstick along the diagonal. Find the length of the sides of the square.

14.1 cm



$x^2 + x^2 = 20^2$
 $2x^2 = 400$

4. Is a triangle with the following side lengths acute, obtuse, or right?

a) 7, 8, 9
acute

b) 20, 28, 19
obtuse

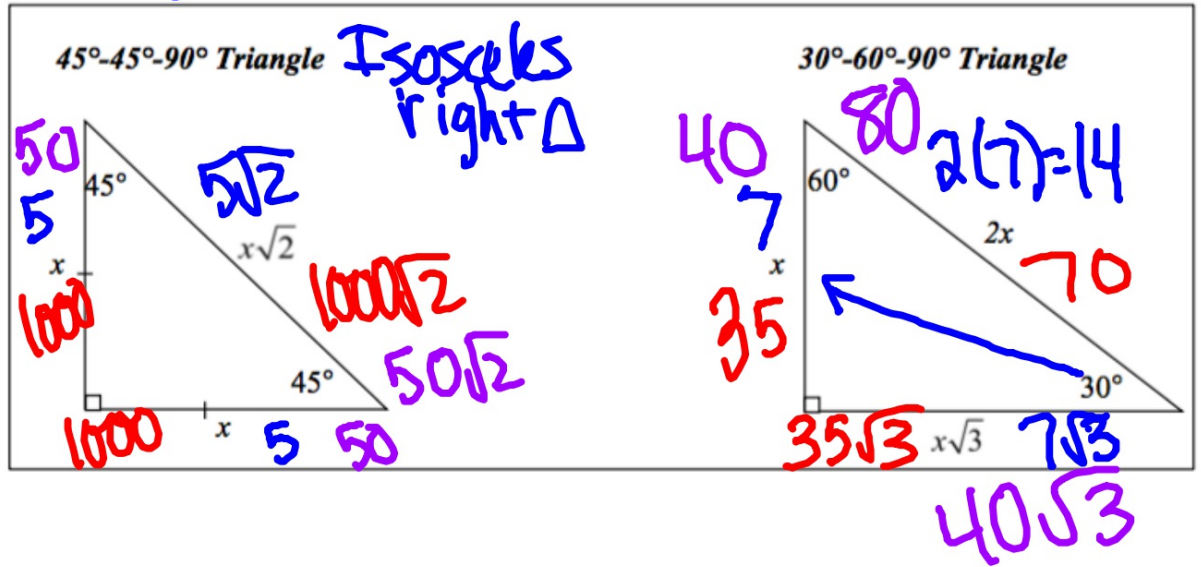
c) 33, 65, 56
right

Summary:

right Δ $\Rightarrow a^2 + b^2 = c^2$ ← hypotenuse
 IF $a^2 + b^2 < c^2$ obtuse
 $a^2 + b^2 > c^2$ acute

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7.2 EQ: Same as 7.1

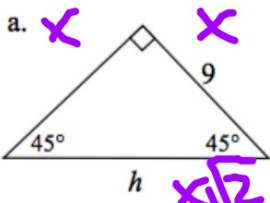


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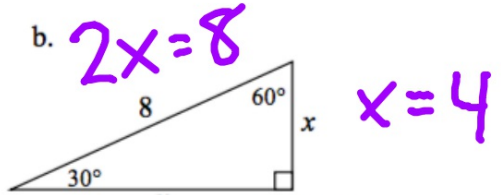
Example 1:

Find the value of each variable. Leave your answers exact.

leave radical

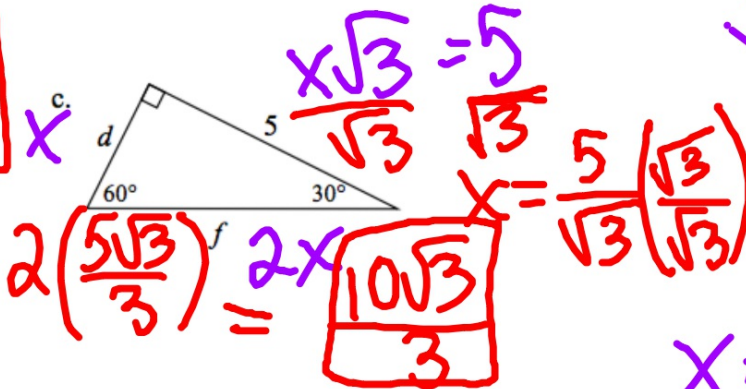


$x = 9$
 $h = x\sqrt{2} = 9\sqrt{2}$

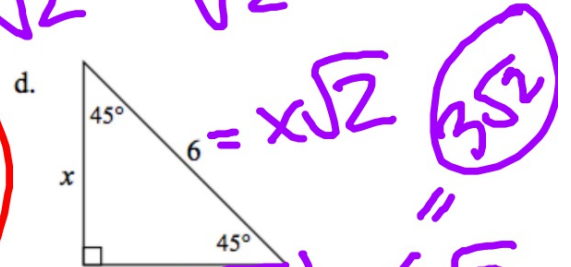


$2x = 8$
 $x = 4$
 $x\sqrt{3} = 4\sqrt{3}$

$\frac{5\sqrt{3}}{3} = x$



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



$x = \frac{6}{\sqrt{2}} \left(\frac{\sqrt{2}}{\sqrt{2}} \right) = \frac{6\sqrt{2}}{2}$

Summary: