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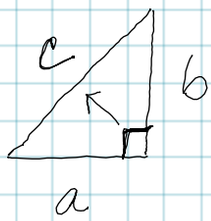
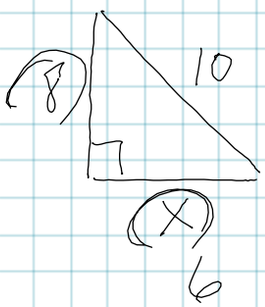
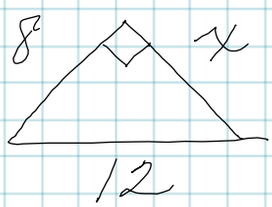
* Find the length of the side of the right triangle represented by the variable.



$$\boxed{a^2 + b^2 = c^2} \ *$$



$$8^2 + x^2 = 10^2$$
$$64 + x^2 = 100$$
$$-100 \qquad -100$$
$$x^2 - 36 = 0$$
$$(x+6)(x-6) = 0$$
$$x = \cancel{-6}, 6 \qquad \boxed{x = 6}$$



$$8^2 + x^2 = 12^2$$
$$64 + x^2 = 144$$
$$-144 \qquad -144$$
$$\cancel{x^2 - 80 = 0}$$
$$64 + x^2 = 144$$
$$-64 \qquad -64$$
$$x^2 = 80$$

x is a square root of 80

$$x = \pm\sqrt{80}$$
$$x = \sqrt{80} = \sqrt{16 \cdot 5}$$
$$\boxed{x = 4\sqrt{5}}$$