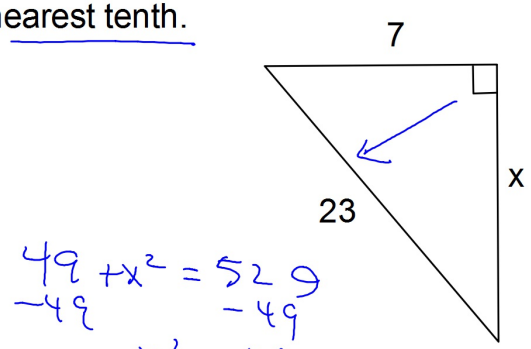
Find the length of the side labeled x to the nearest tenth.



Pythagorean Theorem

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

$7^2+x^2=23^2$

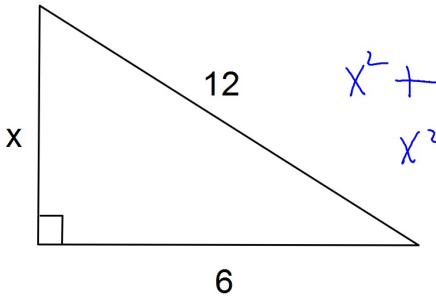
$49+x^2=529$

$-49 \quad -49$

$x^2=480$

$x=21.9$

Find the length of the side labeled x. Simplify if the answer is irrational.



$x^2+6^2=12^2$

$x^2+36=144$

$-36 \quad -36$

$\sqrt{x^2}=\sqrt{108}$ (36 < 3)

$x=\pm 6\sqrt{3}$

Standard Form of a Quadratic Function:

$y = ax^2 + bx + c$

Standard Form of a Quadratic Equation:

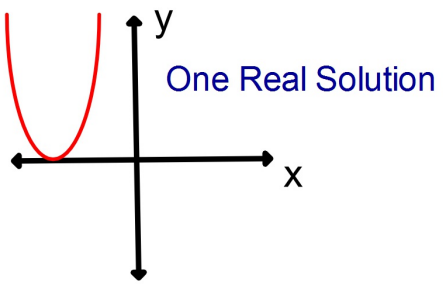
$0 = ax^2 + bx + c$

When you replace y with zero you are finding..... X-Intercepts

Solutions to quadratic equations using graphs:

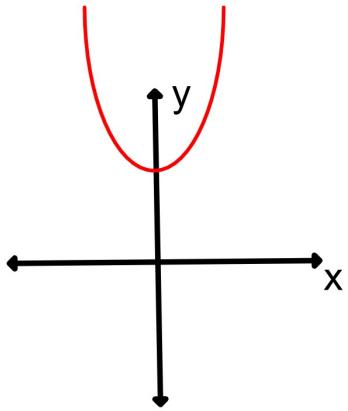
Tell the number of solutions to each quadratic equation by using it's graph.

1. $0 = x^2 + 4x + 4$



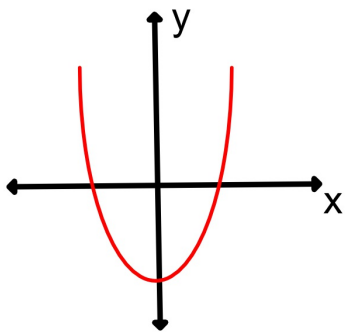
One Real Solution

2. $0 = 2x^2 + 5$



No Real Solution

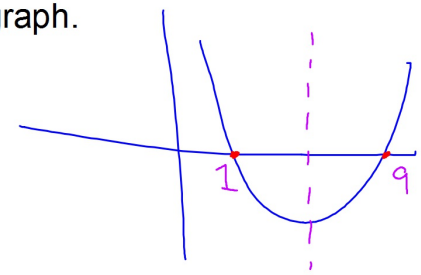
3. $0 = x^2 - 6$



Two real solutions

Solutions to Quadratic Equations are the same as

x-intercepts of the graph.



Can you solve this equation with square roots?

$4x^2 + 9x - 1 = 13$

No, if there is a b-term (bx) then you
can't solve the equation using square roots.