

METHOD #3

*only works with whole numbers for a,b,c

Solving using Factoring:

5. $x^2 + 4x - 12 = 0$

$(x-2)(x+6) = 0$ $c = -12$ $b = 4$

-1	12
-2	6
-3	4

$x-2=0$
 $x=2$

$x+6=0$
 $x=-6$

6. $2x^2 + 9x - 5 = 0$

$2x$	-1
$2x^2$	$-1x$
$10x$	-5

$a \cdot c = -10$ $b = 9$

-1	10
-2	5

$(2x-1)(x+5) = 0$

$2x-1=0$
 $x = \frac{1}{2}$

$x+5=0$
 $x = -5$

METHOD #4

Solve using Quadratic Formula:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

7. $2x^2 - 5x + 3 = 0$

$a = 2$
 $b = -5$
 $c = 3$

$$x = \frac{-(-5) \pm \sqrt{(-5)^2 - 4(2)(3)}}{2(2)}$$

$$x = \frac{5 \pm \sqrt{1}}{4} = \frac{5 \pm 1}{4}$$

$\nearrow = \frac{5+1}{4} = \frac{6}{4} = \frac{3}{2} = 1.5$
 $\searrow = \frac{5-1}{4} = \frac{4}{4} = 1$

8. $x^2 + 6x - 1 = 0$

$a = 1$
 $b = 6$
 $c = -1$

$$x = \frac{-(6) \pm \sqrt{(6)^2 - 4(1)(-1)}}{2(1)}$$

$$x = \frac{-6 \pm \sqrt{40}}{2}$$

$$x = \frac{-6 \pm 2\sqrt{10}}{2} = -3 \pm \sqrt{10}$$

$\sqrt{40}$
 $2 \sqrt{20}$
 $2 \sqrt{10}$
 $2 \sqrt{5}$

Summary: How do you know which method to use to solve quadratics?