12/11/12 Writing Quadratic Equations

Solve by factoring: $x^2 + 3x - 70 = 0$

-70, 10, -3, x, x, 3

$(x+10)(x-3) = 0$

$x = -10, 3$

you take the opposite of each factor for your solution.

Write a quadratic in standard form with the given roots.

Example 1 $x = 4, -8$

$(x-4)(x+8) = 0$

$x^2 + 4x - 32 = 0$

	x	-4
x	x^2	$-4x$
8	$8x$	-32

$x^2 + 4x - 32$

① Take the opposite of solutions for your factors

② multiply.

2 $x = 3, -5$

$(x-3)(x+5) = 0$

$x^2 + 2x - 15 = 0$

3 $x = 12, 6$

$(x-12)(x-6) = 0$

$x^2 - 18x + 36 = 0$

4 $x = \frac{1}{2}, 3$

$2\left(x - \frac{1}{2}\right)(x-3) = 0$

$(2x-1)(x-3) = 0$

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

when you have fractions just mult. each factor by the denominator involved.

5 $x = \frac{3}{2}, -1$

$2\left(x - \frac{3}{2}\right)(x+1) = 0$

$(2x-3)(x+1) = 0$

$2x^2 - x - 3 = 0$

6 $x = -\frac{1}{5}, \frac{2}{3}$

$\left(x + \frac{1}{5}\right)\left(x - \frac{2}{3}\right) = 0$

$5\left(x + \frac{1}{5}\right)3\left(x - \frac{2}{3}\right) = 0$

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

$10x^2 - 8x - 2 = 0$