

Topic: Solving Quadratics by factoring

EQ: How do you solve quadratics?

Solve quadratics by factoring: use when it is easy to factor!
Zero product property:

$$3 \cdot x \cdot 752 = 0$$

$$x = 0$$

If $a \cdot b = 0$, then
 $a = 0$ or $b = 0$.

A) Get equation in standard form ($ax^2 + bx + c = 0$)
note: It's easier if you make sure ax^2 is positive

B) Factor

C) Set each factor equal to zero and solve.

Ex: $x^2 - 5x = 14$

$$\begin{array}{r} -14 \quad -14 \\ \hline x^2 - 5x - 14 = 0 \end{array}$$

$$(x+2)(x-7) = 0$$

$$\begin{array}{r} 2x \\ + \quad -7x \\ \hline -5x \end{array}$$

$$x+2=0$$

$$\begin{array}{r} -2 \quad -2 \\ \hline \end{array}$$

$$\boxed{x = -2}$$

$$x-7=0$$

$$\begin{array}{r} +7 \quad +7 \\ \hline \end{array}$$

$$\boxed{x = 7}$$