Algebra 1   8.6
Factor trinomials
Solve quadratic equations by factoring

quadratic
EWE
Factor
Zero product property

Quiz 8.3-8.5

$(x + 3)(x - 6)$ $(2x + 3)(2x - 3)$

$$x + 3$$
$$x - 6$$

$(x + 7)^2$

$$2x + 3$$
$$2x - 3$$

$$-6x \quad -18$$
$$x^2 \quad 8x$$

$$X + 7$$
$$X + 7$$

$$4x^2 \boxed{\begin{matrix} -6x \\ 6x \end{matrix}} - 9$$

$$x^2 - 3x - 18$$

$$x^2 \quad \begin{matrix} 7x + 49 \\ 7x \end{matrix}$$

$$4x^2 - 9$$

$$x^2 + 14x + 49$$

$$\frac{3x^2}{3x} + \frac{6xa}{3x} + \frac{24x}{3x}$$

$$3x \left(x + 2a + 8 \right)$$

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

$$3x + 5 = 0 \qquad 2x - 1 = 0$$
$$\underset{-5 \quad -5}{} \qquad$$
$$\frac{3x = -5}{3} \qquad \frac{2x = 1}{2} = \frac{1}{2}$$
$$x = \frac{-5}{3} \qquad x = \frac{1}{2}$$

$$3x^2 = 12x$$
$$-12x \quad -12x$$

$$\frac{3x^2 - 12x}{3x \quad 3x} = 0$$

$$3x(x - 4) = 0$$

$$\frac{3x = 0}{3 \quad 3} \qquad \begin{array}{l} x - 4 = 0 \\ +4 \quad +4 \\ x = 4 \end{array}$$

$$x = 0$$

$$(\quad) + (\quad)$$

$$(2m - 3)(2m + 3)(x + 5)$$

$$(4m^2 - 9)(x + 5)$$

$$4m^2 - 9$$
$$x + 5$$
$$\overline{}$$
$$4m^2 x + 20m^2 - 45$$
$$-9x$$
$$\overline{}$$
$$4m^2 x + 20m^2 - 9x - 45$$

Factor each polynomial.

1A. $d^2 + 11d + 24$

b. $x^2 - 7x - 18$ $=0$

Factor vs solve

$=$

0

3A. $y^2 + 13y - 48$

=
0

3B. $r^2 - 2r - 24 = 0$

$= 0$