

TRI FACTORING

Factoring Quadratics

Factor each of the following expressions.

1) $x^2 + 7x + 12$

2) $2n^2 + 10n - 48$

3) $3m^2 - 15m - 18$

4) $w^2 - 5w + 6$

Solving Quadratics

How to solve a quadratic equation by factoring:

(1) The quadratic expression MUST equal zero: $ax^2 + bx + c = 0$

(2) Factor.

(3) Set each factor equal to zero.

(4) Solve for x .

Solve each of the following quadratic equations.

5) $x^2 + 2x - 3 = 0$

6) $2n^2 + 12n = 32$

7) On the soccer field, Dakota kicks the soccer ball to his teammate, Alfredo. The height in feet of the soccer ball is given by the function $h(t) = -t^2 + 10t - 16$, where $h(t)$ is the height of the soccer ball at t seconds. Determine when the soccer ball is on the ground.

8) The water spraying from a fire hose can be modeled by $y = -0.1x^2 + 3x + 10$, where x is the water's horizontal distance traveled in feet, and y is the water's vertical distance traveled in feet. Determine the furthest distance from the building the fire truck should park to ensure the hose sprays 30 feet above the ground to reach the fire on the third floor. *Hint: The GCF is the value of a .*