

Using $y = x^2 - 6x + 13$, find the Axis of Symmetry and the vertex.

Using $y = x^2 + 20x + 99$, find the x-intercepts and the y-intercepts.

*Remember you can find the x-intercept by factoring and solving or by using the Quadratic Formula.

Simplify. $(5x - 1)(3x + 3)$

Solve the equation:

$$3(2x + 4) = 48$$

Solve.

**Remember you can factor and solve or use the Quadratic Formula

$$3x^2 + 14x - 5 = 0$$

Solve.

*Remember you can factor and solve or use the Quadratic Formula

** Does the quadratic equal 0? If not, make it!

$$2n^2 - 3n = 5$$

Suppose you throw a baseball into the air with an initial upward velocity of 28 ft/s and an initial height of 6 feet. The formula $h = -16t^2 + 28t + 6$ gives the ball's height h in feet at t seconds. How high is the ball after 1 second?

Simplify. $(4x^3 - 2x + 7) + (3x^3 + 4x^2 - 5x + 10)$

Simplify. $(5x^2 + 3x - 1) - (x^2 - 2x - 9)$

Factor and Solve.

$$x^2 + 9x + 18 = 0$$

Solve by using the Quadratic Formula.

$$2x^2 + 9x - 3 = 0$$

Suppose z varies directly as x , and $z = 15$ when $x = 2$. Find z when $x = 8$

If y varies jointly as x and z , and $y = 33$ when $x = 9$ and $z = 12$, find y when $x = 16$ and $z = 22$.

If y varies inversely as x , and $y = 32$ when $x = 3$, find y when $x = 15$.

A ball is launched from the top of a building. The ball follows the path of $y = -16x^2 + 70x + 50$, where x is the time in seconds and y is the height in feet.

How high does the ball go? How long does it take the ball to get to the maximum height?

A ball is launched from the top of a building. The ball follows the path of $y = -16x^2 + 70x + 50$, where x is the time in seconds and y is the height in feet.

When does the ball hit the ground?

Factor and Solve.

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

Complete the table.

x	$y = 2x^2 - 3x + 1$
0	
1	
2	
3	
4	
5	
6	