

Bell Work

Get a new bell work

4/6/2015

1. What did you do over Spring Break?
2. Solve the following when $y=0$.

$$y = 3x + 15$$

$$0 = 3x + 15$$
$$-15 \quad -15$$

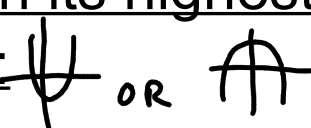

$$\frac{-15}{3} = \frac{3x}{3}$$

$$\boxed{-5 = x}$$

Before we have learned to solve linear functions.

Now we are going to learn to solve a quadratic function.

What does that mean?

Quadratic Function: An equation with its highest exponent as 2. The graph looks like:  or 

To Solve: Given one value, find the other.

These are quadratic functions:

$$h(x) = 3x^2 - 2x + 5$$

$$f(x) = -4x^2 + 12x - 6$$

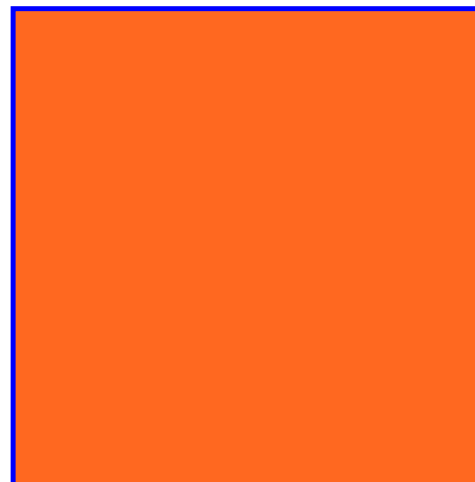
$$g(x) = 16x^2 - 64$$

These are not:

$$h(t) = t^3 - 4x^2 + 16$$

$$y = 12x - 15$$

$$h(x) = 4x^2 - 3x + 7x^3$$



Let's practice solving a quadratic function when $y=0$.

What value are we looking for?

$$y = 16x^2 - 64$$

$$0 = 16x^2 - 64$$

+64 +64

$$\frac{64}{16} = \frac{16x^2}{16}$$

$$\sqrt{4} = \sqrt{x^2}$$

$$\sqrt{4} = x$$

$$2 = x$$

$$y = 2x^2 - 72 \quad \text{let } y = 0$$

$$0 = 2x^2 - 72$$

+72 +72

$$\frac{72}{2} = \frac{2x^2}{2}$$

$$\sqrt{36} = \sqrt{x^2}$$

$$6 = x$$

$$y = -3x^2 + 75 \quad \text{let } y = 0$$
$$0 = -3x^2 + 75$$
$$-75$$

$$-75 = -3x^2$$
$$\frac{-75}{-3} = \frac{-3x^2}{-3}$$

$$\sqrt{25} = \sqrt{x^2}$$

$$5 = x$$

Factor: $x^2 + 8x + 16 = (x+4)(x+4)$

	x	4
x	x^2	$4x$
4	$4x$	16

Factor out the GCF

$$\textcircled{1} \quad \underline{8}x^2 + \underline{20}y$$
$$4(2x^2 + 5y)$$

$$\textcircled{2} \quad \underline{4}x^2 - \underline{4}x$$
$$4x(x - 1)$$

$$\textcircled{3} \quad \underline{2}m^2 + \underline{6}mn$$
$$2m(m + 3n)$$