Warm up- Graph the function

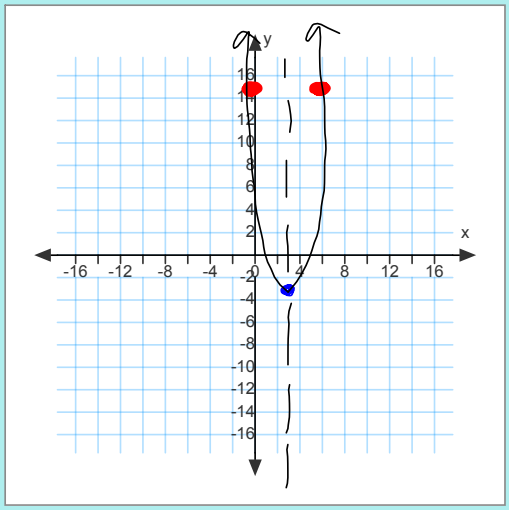
$$f(x) = 2x^2 - 12x + 15$$

AOS $= \frac{-b}{2a}$ $\frac{12}{2(2)} = 3$

$b = -12$

$a = 2$

$X = 3$



Vertex $2(3)^2 - 12(3) + 15$

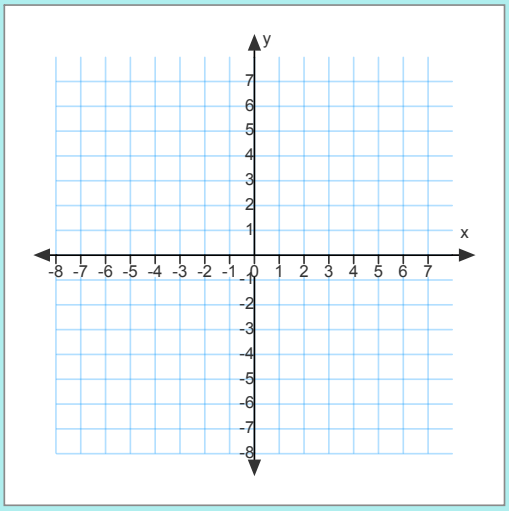
$(3, -3)$ $18 - 36 + 15 = -3$

$2(0)^2 - 12(0) + 15$

$(0, 15)$

$(6, 15)$

Homework Questions



$-x^2+4x-4$

$\frac{-4}{2(-1)} = \frac{-4}{-2}$ $x=2$

$-\frac{1}{4}x^2+2x-3$

$\frac{-2}{2(-1/4)} = \frac{-2}{-1/2}$ $x=4$

10.3 Solving Quadratic Equations

1.) Evaluate a square root.

2.) Evaluate a radical expression.

3.) Solve a quadratic equation.

10.3 Solving Quadratic Equations

square root - If $b^2 = a$, then b is a square root of a.

For example: If $3^2 = 9$, then 3 is a square root of 9.

$\sqrt{9} = 3$

$\sqrt{9} = -3$

$\sqrt{9} = \pm 3$

10.3 Solving Quadratic Equations

All positive numbers have two square roots.

All negative numbers have no square roots.

$\sqrt{-4} = NS$

10.3 Solving Quadratic Equations

1.) Evaluate the following.

(a) $\sqrt{64}$ $= \pm 8$

(b) $-\sqrt{64}$ $= -8$

(c) $\sqrt{0} = 0$

(d) $\sqrt{16} = \pm 4$

(e) $\sqrt{-4}$ NS

10.3 Solving Quadratic Equations

2.) Evaluate the following.

(a) $-\sqrt{121}$

-11

(b) $-\sqrt{1.44}$

-1.2

(c) $\sqrt{0.09}$

$= \pm .3$

(d) $\sqrt{7}$

10.3 Solving Quadratic Equations

4.) Solve each equation. Then Graph.

(a) $x^2 - 4 = 0$

$+4 \quad +4$

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

$x = \pm 2$

(b) $\sqrt{x^2} = \sqrt{0}$

$x = 0$

(c) $x^2 - 5 = 0$

$+5 \quad +5$

$\sqrt{x^2} = \sqrt{5}$

$x = \pm\sqrt{5}$

(d) $x^2 - 1 = 0$

10.3 Solving Quadratic Equations

5.) Solve $3x^2 - 48 = 0$.

$+48 \quad +48$

$\frac{3x^2}{3} = \frac{48}{3}$

$x^2 = 16$

$x = \pm 4$

10.3 Solving Quadratic Equations

6.) Solve $12x^2 - 60 = 0$.

$x^2 = 5$

$x = \pm\sqrt{5}$

10.3 Solving Quadratic Equations

7.) Solve $7x^2 + 30 = 9$.

$-30 \quad -30$

$7x^2 = -21$

$\sqrt{x^2} = \sqrt{-3}$

$x = N.S.$

$12x^2 - 60 = 0$

10.3 Solving Quadratic Equations

The solutions to a quadratic equation are the X intercepts on the graph.

10.3 Solving Quadratic Equations

Homework:

⇦ pg. 567 #1-20

⇦ Factoring WS #1-10