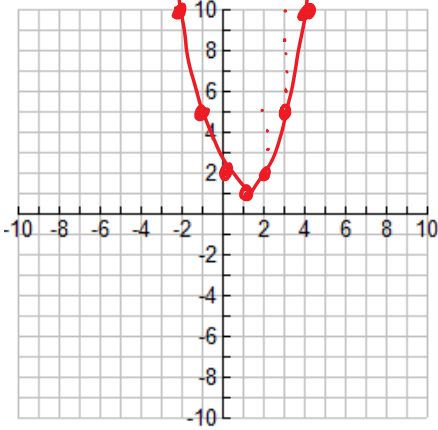


Name:

Unit 8 Day 11 - Standard Form Homework

1. $y = x^2 - 2x + 2$



$-\frac{b}{2a}$
 $\frac{2}{2 \cdot 1} = 1$
 $(1)^2 - 2(1) + 2$
 $1 - 2 + 2$
 1

Axis of Symmetry: $x = 1$

Vertex: $(1, 1)$ MAX or MIN \uparrow

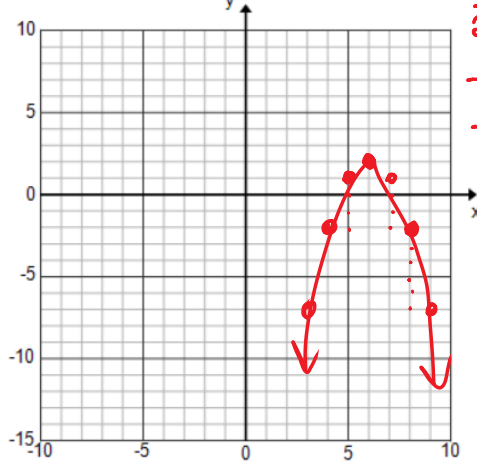
direction of graph: up

y-intercept: $(0, 2)$

range: $[1, \infty)$

End Behavior: $x \rightarrow -\infty, y \rightarrow \infty$
 $x \rightarrow \infty, y \rightarrow \infty$

2. $y = -x^2 + 12x - 34$



$-\frac{12}{2 \cdot -1} = 6$
 $-(6)^2 + 12(6) - 34$
 $-36 + 72 - 34$

Axis of Symmetry: $x = 6$

Vertex: $(6, 2)$ MAX or MIN

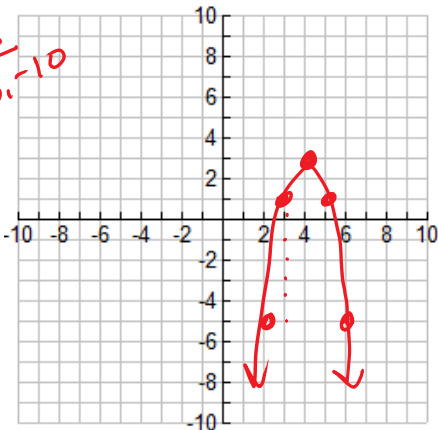
direction of graph: $down$

y-intercept: $(0, -34)$

range: $(-\infty, 4]$

End Behavior: $x \rightarrow -\infty, y \rightarrow -\infty$
 $x \rightarrow \infty, y \rightarrow -\infty$

3. $y = -2x^2 + 16x - 29$



$\frac{1, 3, 5}{x - 2}$
 $-2 - 6 = -10$

$-\frac{16}{2(-2)}$
 $-\frac{16}{-4}$
 4
 $-2(4)^2 + 16(4) - 29$
 $-32 + 64 - 29$
 3

Axis of Symmetry: $x = 4$

Vertex: $(4, 3)$ MAX or MIN

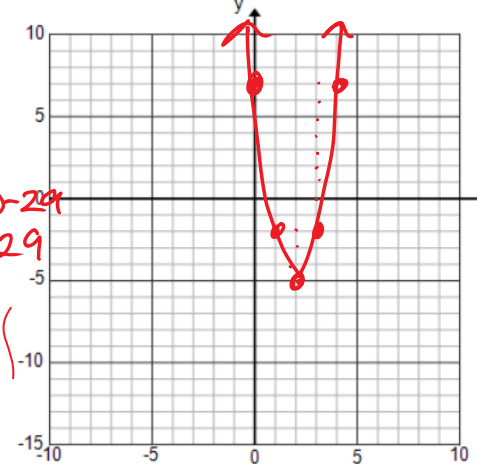
direction of graph: $down$

y-intercept: $(0, -29)$

range: $(-\infty, 3]$

End Behavior: $x \rightarrow -\infty, y \rightarrow -\infty$
 $x \rightarrow \infty, y \rightarrow -\infty$

4. $y = 3x^2 - 12x + 7$



$\frac{12}{2 \cdot 3} = \frac{12}{6} = 2$

$3(2)^2 - 12(2) + 7$
 $12 - 24 + 7$
 $-12 + 7$
 -5

Axis of Symmetry: $x = 2$

Vertex: $(2, -5)$ MAX or MIN

direction of graph: up

y-intercept: $(0, 7)$

range: $[-5, \infty)$

End Behavior: $x \rightarrow -\infty, y \rightarrow \infty$
 $x \rightarrow \infty, y \rightarrow \infty$

$\frac{1, 3, 5}{x - 3}$
 $3, 9, 15$

