

Unit 4 Review Part 1 Honors

1. $y = 2x^2 - 5x + 7$

A.O.S.: $X = 5/4$

Vertex: $(5/4, 31/8)$ about $(1.25, 3.875)$

y-intercept: $0, 7$

Domain: _____

Range: _____

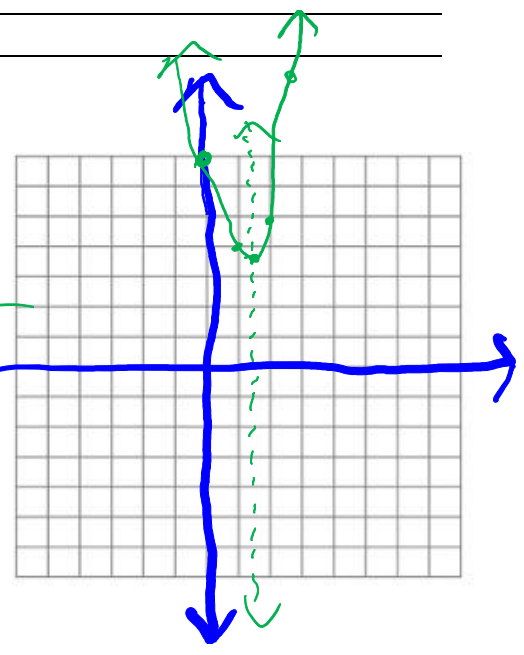
Increasing Interval: _____

Decreasing Interval: _____

End Behavior: _____

$$x = \frac{-b}{2a}$$

0	7
1	4
$5/4$	5
2	10
3	20



2. $y = -\frac{1}{2}(x - 3)^2 + 5$

a) Transformations from parent function $y = x^2$:

A.O.S.: _____

Vertex: _____

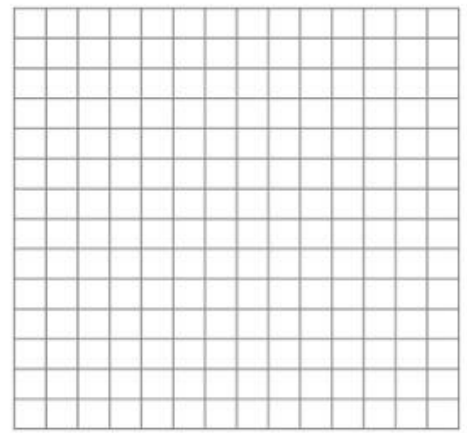
Domain: _____

Range: _____

Increasing Interval: _____

Decreasing Interval: _____

End Behavior: _____



3. $y = \frac{3}{x+1} - 4$

a) Transformations from parent function $y = \frac{3}{x}$:

Asymptotes: _____

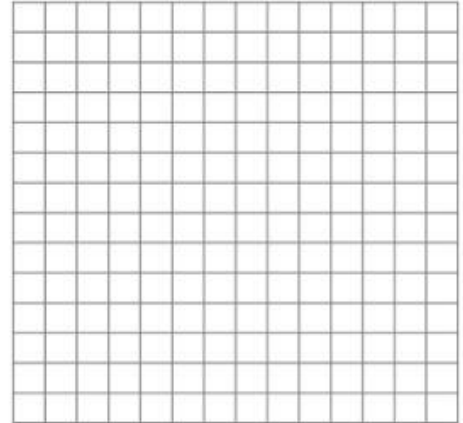
Domain: _____

Range: _____

Increasing Interval: _____

Decreasing Interval: _____

End Behavior: _____



4. $y = \sqrt{x+2} - 1$

a) Transformations from parent function $y = \sqrt{x}$:

Domain: _____

Range: _____

Increasing Interval: _____

Decreasing Interval: _____

End Behavior: _____



5. $y = -\sqrt[3]{x-5} + 3$

a) Transformations from parent function $y = \sqrt[3]{x}$:

Domain: _____

Range: _____

Increasing Interval: _____

Decreasing Interval: _____

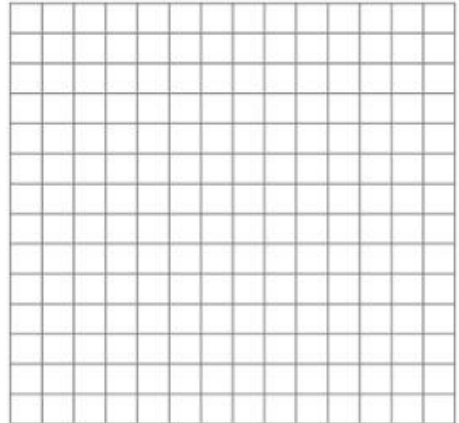
End Behavior: _____



For problems 5-7, graph and state a valid solution:

6. $y < x^2 - 6x + 7$

Valid solution: _____



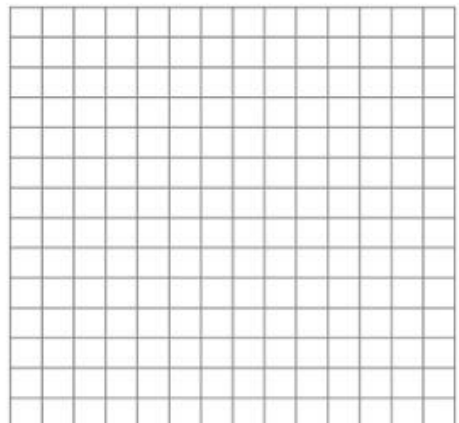
7.
$$\begin{cases} y < -x^2 - 6x + 1 \\ y \geq -x^2 + 4x - 7 \end{cases}$$

Valid solution: _____



8.
$$\begin{cases} y < x^2 + 10 \\ y > x + 10 \end{cases}$$

Valid solution: _____



9. $y = \frac{1}{x-2} + 6$

a) Transformations from parent function $y = \frac{1}{x}$:

Asymptotes: _____

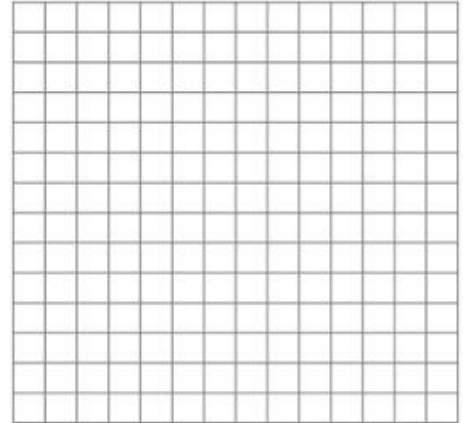
Domain: _____

Range: _____

Increasing Interval: _____

Decreasing Interval: _____

End Behavior: _____



10. A soccer ball is kicked and follows a path modeled by $h(t) = -\frac{1}{4}t^2 + 3t$ where h is the height in feet and t is the time in seconds. The crossbar of a soccer goal is eight feet from the ground.

- a. What is the maximum height the soccer ball reaches?

- b. At what times, t , is the soccer ball low enough to score?