

Name: _____

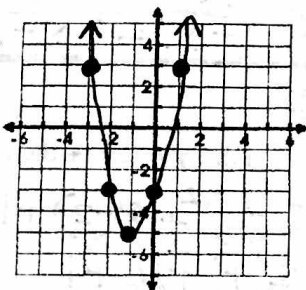
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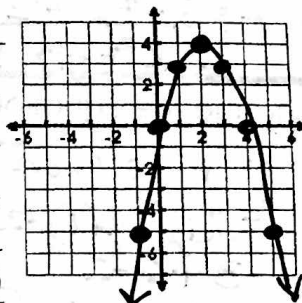
Unit #3C Review

Graph the following equation. Then, write the characteristics for the graph.

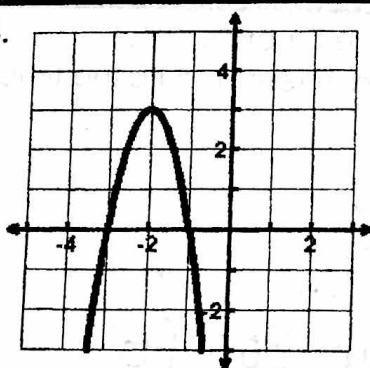
1. $y = 2(x+1)^2 - 5$

• Vertex: $(-1, -5)$ • Axis of Sym.: $x = -1$ • Domain: $(-\infty, \infty)$ • Range: $[-5, \infty)$ • Increase: $[-1, \infty)$ • Decrease: $(-\infty, -1]$ 

2. $y = -x^2 + 4x$

• Vertex: $(2, 4)$ • Axis of Sym.: $x = 2$ • Zeroes: $\{0, 4\}$ • Y-int: $(0, 0)$ • Increase: $(-\infty, 2]$ • Decrease: $[2, \infty)$ 

3.



• Describe the transformations:

reflection or inverse. Roots: $\{-3, -1\}$

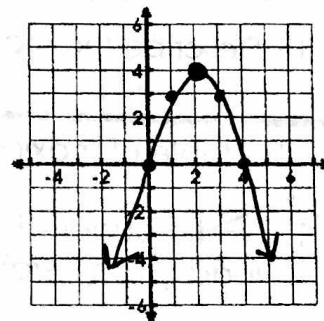
Shift left 2 units

Shift up 3 units

• Write the equation:

$$y = -3(x+3)^2 - 1$$

4. Sketch the quadratic function using the given information:

Domain: $\mathbb{R}$ Range: $y \leq 4$ Increasing: $-\infty < x < 2$ Decreasing: $2 < x < \infty$ 

Describe the transformations to the parent function in the given equations.

5. $y = -(x+2)^2 - 5$

inverse or reflect, shift left 2, shift down 5

6. $y = 3(x-4)^2 + 2$

stretch

shift right 4, shift up 2

Write the quadratic equation of the graph that has been....

7. shifted down 1 and shrunk by a factor of $\frac{1}{2} \rightarrow y = \frac{1}{2}(x-0)^2 - 1$ or $y = \frac{1}{2}x^2 - 1$

8. reflected over the x-axis and has shifted right 2 $\rightarrow y = -(x-2)^2$