

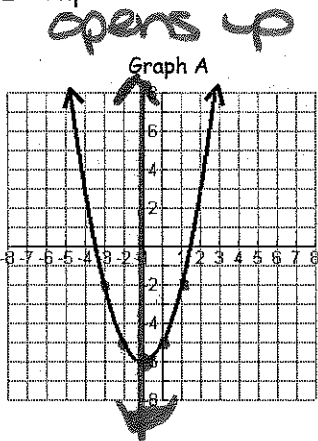
Quadratic Relationships with Graphs

Claswork Activity

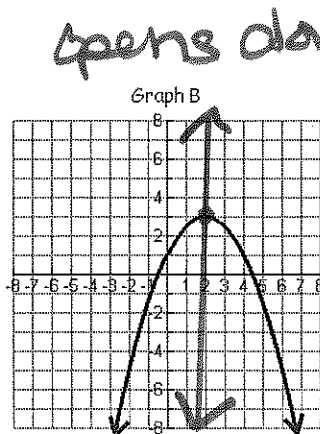
Name KEY
 Date _____ Period _____

On each graph: 1) Draw a point at the vertex 2) Draw the AOS axis of symmetry 3) State the vertex as an ordered pair 4) Identify the vertex as a maximum or minimum point 5) Write the equation for the axis of symmetry ($x = \underline{\quad}$) 6) State the Domain and Range.

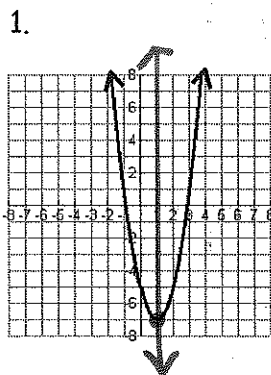
Examples:



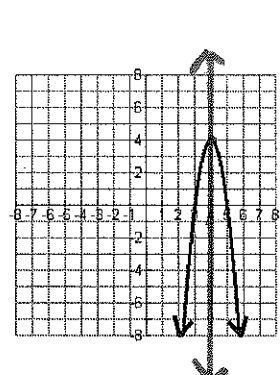
Vertex: $(-1, -6)$
 Max/Min
 Axis of symmetry:
 $x = -1$
 Domain: All real numbers \mathbb{R}
 Range: $\mathbb{R} \geq -6$



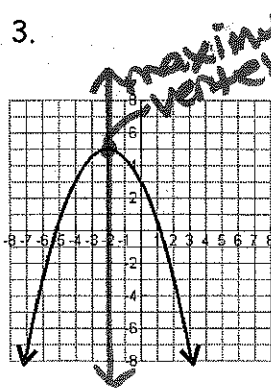
Vertex: $(2, 3)$
 Max/Min
 Axis of symmetry:
 $x = 2$
 Domain: \mathbb{R}
 Range: $\mathbb{R} \leq 3$



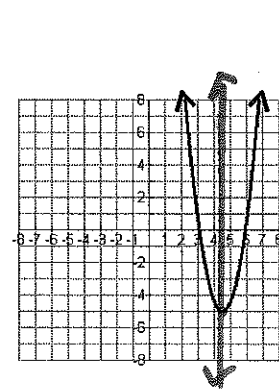
Vertex: $(1, -7)$
 Max/Min *opens up*
 AOS: $x = 1$
 Domain: \mathbb{R} (All real numbers)
 Range: $\mathbb{R} \geq -7$



Vertex: $(4, 4)$
 Max/Min *opens down*
 AOS: $x = 4$
 Domain: \mathbb{R}
 Range: $\mathbb{R} \leq 4$



Vertex: $(-2, 5)$
 Max/Min *opens down*
 AOS: $x = -2$
 Domain: \mathbb{R}
 Range: $\mathbb{R} \leq$

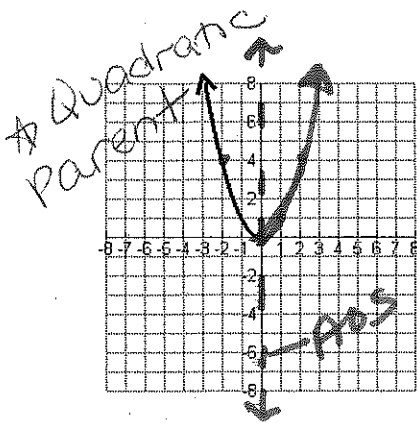


Vertex: $(4.5, -5)$
 Max/Min *opens up*
 AOS: $x = 4.5$
 Domain: \mathbb{R}
 Range: $\mathbb{R} \geq -5$

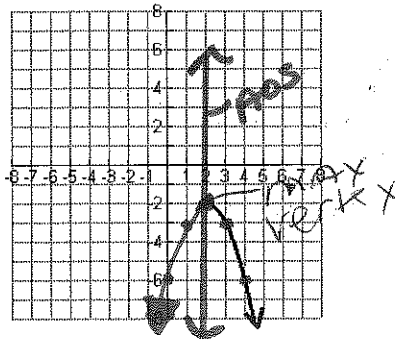
Below are incomplete graphs of quadratic relationships that stop at the vertex. Use what you know about characteristics of parabolas to complete the graphs.

- 1) Put a point at the vertex.
- 2) Draw the axis of symmetry.
- 3) Name the coordinate pairs of two corresponding points that are symmetrical.

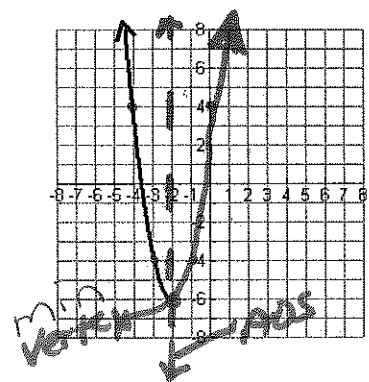
5. $\underline{(-2, 4) (2, 4)}$



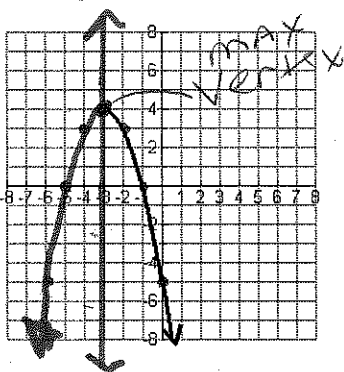
6. $\underline{(3, -3) (1, -3)}$



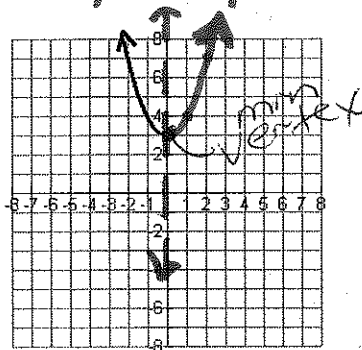
7. $\underline{\begin{matrix} (-4, 4) (0, 4) \\ (-3, -4) (-1, -4) \end{matrix}}$



8. $\underline{(-5, 0) (-1, 0)}$



9. $\underline{(-2, 7) (2, 7)}$



10. $\underline{(-4, 1) (0, 1)}$

