Graphing a Parabola : First, find the vertex .The x-value of the vertex can be found using the equation . Plug that in to find y. Then choose more x-values to plug into the equation and find their y-values. Graph the ordered pairs.

Note: A parabola will reflect across the vertical line that contains the vertex.

Choose 2 x-values on one side of the vertex. Find the y-values and plot the ordered pairs.

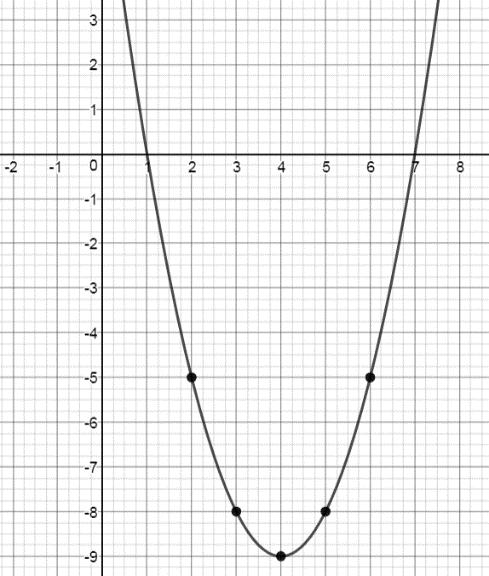
Then plot the reflections of these ordered pairs across that midline.

Ex. Graph

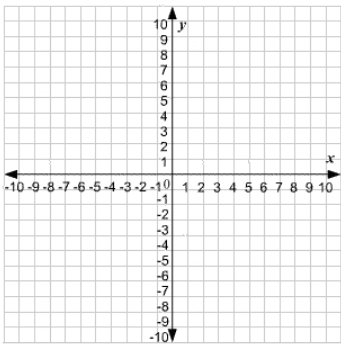
Vertex:

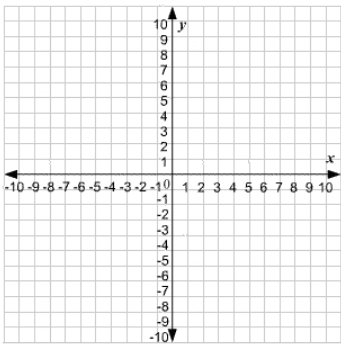
Vertex:

|  |  |
| --- | --- |
| X | Y |
| 2 | -5 |
| 3 | -8 |
| 4 | -9 |
| 5 | -8 |
| 6 | -5 |



You try: Find the vertex and graph.



Find the vertex and graph.

Solve (when factoring doesn’t work): Use the quadratic formula.

Ex.

You try:

Bonus: Quadratic Formula with imaginary roots Rule:

Ex.

You try:

Solve.

Ex.

You try: