

Algebra 2                      NOTES  
 Finding minimums, maximums, and intervals of increase  
 and decrease on a quadratic function

Name: \_\_\_\_\_

Date: \_\_\_\_\_

On the graph to the right, where is the vertex?

Draw on the graph where the function is decreasing.

Draw on the graph where the function is increasing.

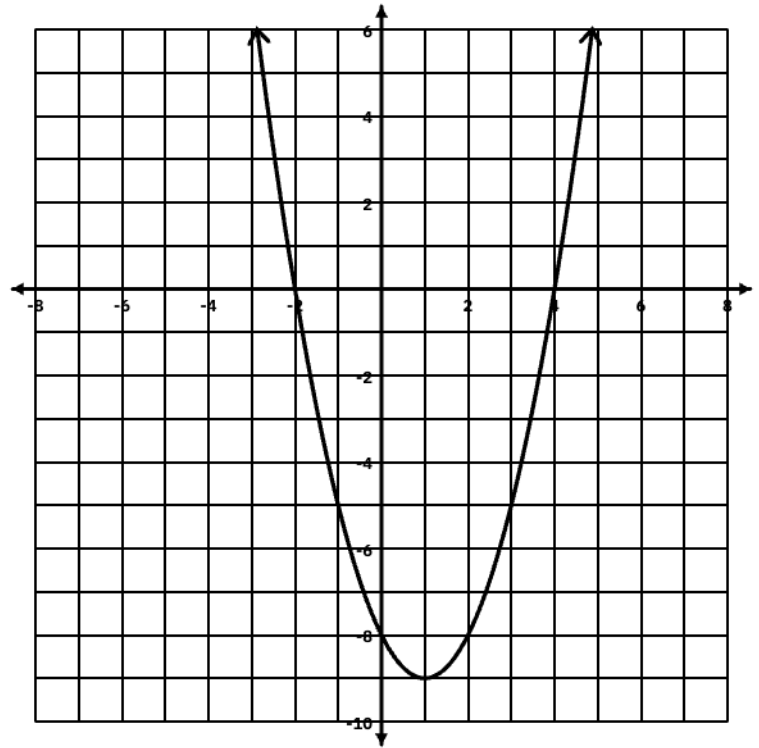
Where does the graph stop decreasing and start increasing?

When intervals of increase and decrease are written parentheses are used and only the x-values are considered.

The graph is increasing on \_\_\_\_\_.

The graph is decreasing on \_\_\_\_\_.

Where a graph changes from decreasing to increasing is called a \_\_\_\_\_. And the graph is considered \_\_\_\_\_.



On the graph to the right, where is the vertex?

Draw on the graph where the function is decreasing.

Draw on the graph where the function is increasing.

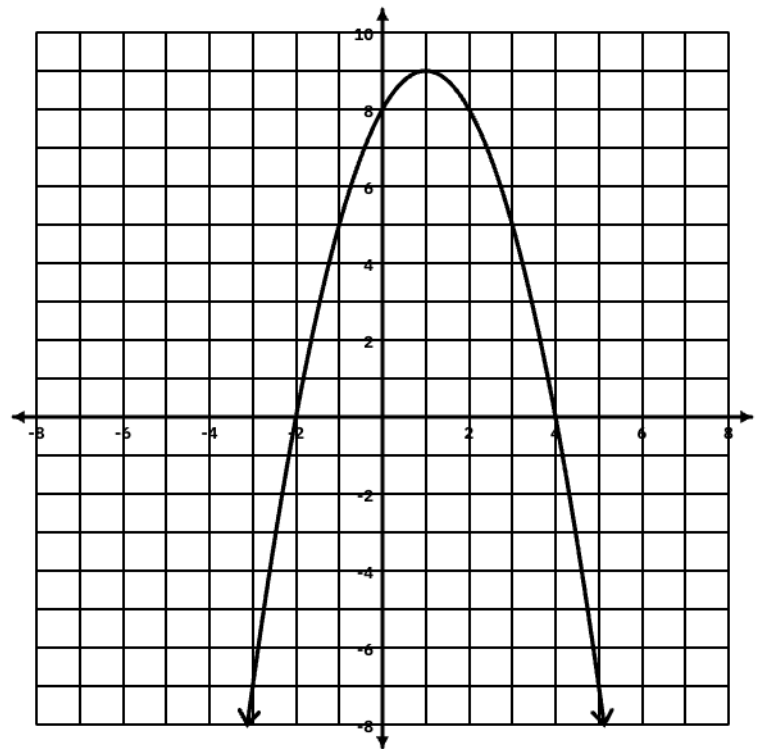
Where does the graph stop decreasing and start increasing?

When intervals of increase and decrease are written parentheses are used and only the x-values are considered.

The graph is increasing on \_\_\_\_\_.

The graph is decreasing on \_\_\_\_\_.

Where a graph changes from increasing to decreasing is called a \_\_\_\_\_. And the graph is considered \_\_\_\_\_.



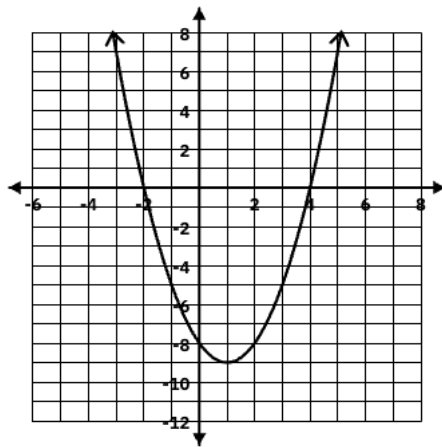
1. Identify the vertex:

Is the function concave up or concave down?

Where is the function increasing?

Where is the function decreasing?

Is there a minimum or a maximum point?



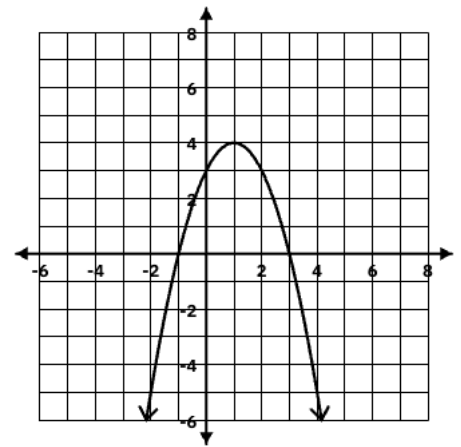
2. Identify the vertex:

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Where is the function decreasing?

Is there a minimum or a maximum point?



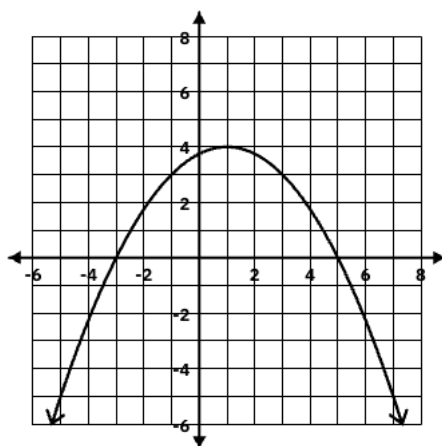
3. Identify the vertex.

Is the function concave up or concave down?

Where is the function increasing?

Where is the function decreasing?

Is there a minimum or a maximum point?



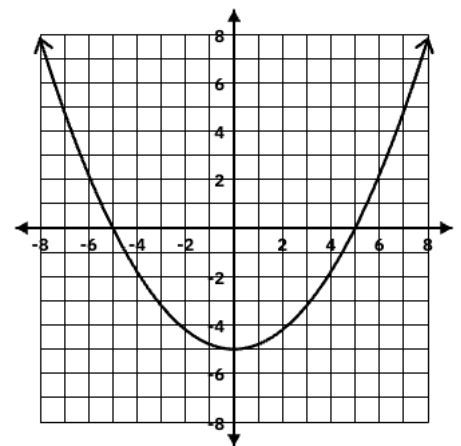
4. Identify the vertex:

Is the function concave up or concave down?

Where is the function increasing?

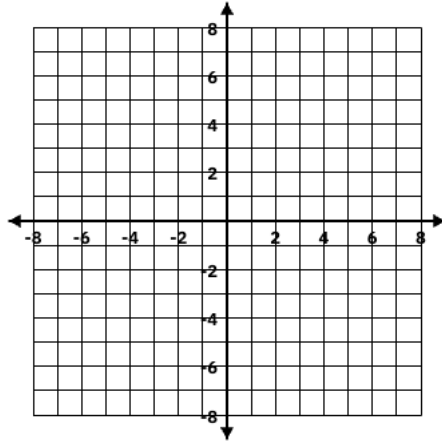
Where is the function decreasing?

Is there a minimum or a maximum point?

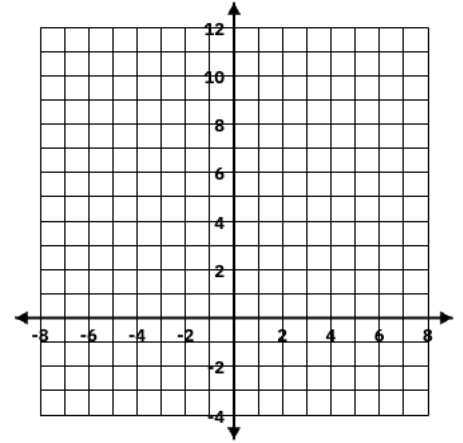


REVIEW

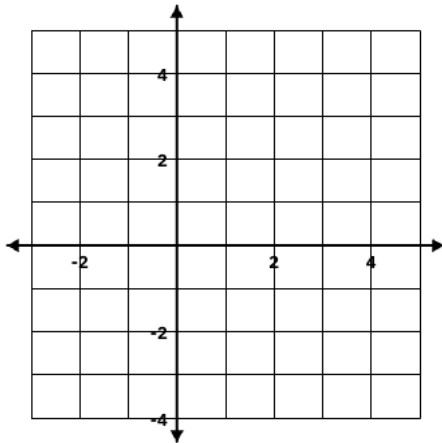
5. Graph the function  $y = x^2 + 4x + 6$



6. Graph the function  $y = -1(x - 4)(x + 2)$



7. Graph the function  $y = 4(x - 1)^2 - 3$



8. Solve using the quadratic formula.

$$x^2 - 6x + 25 = 0$$