

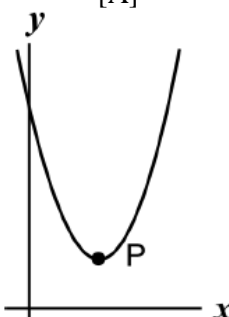
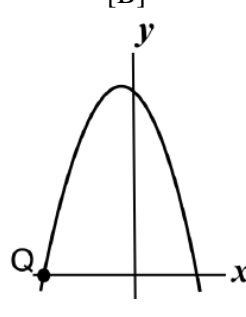
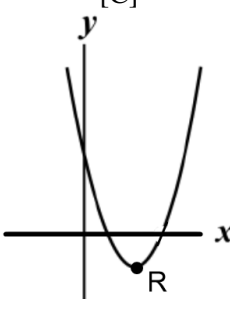
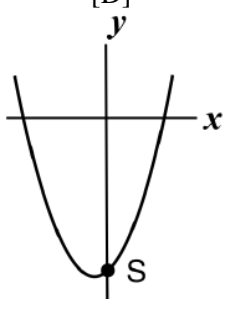
Name:

Period:

Date:

### Extending Thinking: Graphing Quadratic Functions

For each of the following, you must explain your answer.

<p>[A]</p> 	<p>[B]</p> 	<p>[C]</p> 	<p>[D]</p> 
1] $y = x^2 - 6x + 8$ matches graph _____ because	2] $y = (x - 6)(x + 8)$ matches graph _____ because		
3] $y = (x - 6)^2 + 8$ matches graph _____ because	4] $y = -(x + 8)(x - 6)$ matches graph _____ because		

5] Use your answers from #1-4 to find the coordinates of each point shown in the graphs.

P (\_\_\_\_, \_\_\_\_)

Q(\_\_\_\_, \_\_\_\_)

R (\_\_\_\_, \_\_\_\_)

S (\_\_\_\_, \_\_\_\_)

6] Write the equation of the quadratic function with its vertex at (2, -2) and y-intercept of (0,6).

7] Find the x-intercepts of the quadratic function described in #6.

8] Record your results from the matching activity below.

A]  $y =$  \_\_\_\_\_

$y =$  \_\_\_\_\_

B]  $y = x^2 + 8x$  \_\_\_\_\_

$y =$  \_\_\_\_\_

C]  $y = x^2 - 8x$  \_\_\_\_\_

$y =$  \_\_\_\_\_

D]  $y = -x^2 + 8x$  \_\_\_\_\_

$y =$  \_\_\_\_\_

E]  $y =$  \_\_\_\_\_

F]  $y = x^2$  \_\_\_\_\_

G]  $y = x^2 - 8x$  \_\_\_\_\_

$y =$  \_\_\_\_\_

H]  $y =$  \_\_\_\_\_

I]  $y = -\frac{1}{2}x^2 + 4x$  \_\_\_\_\_

$y =$  \_\_\_\_\_