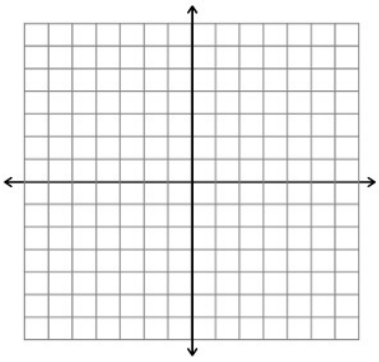
Lesson 4.2 Worksheet

Name: _____

Identify the graph's axis of symmetry, vertex, *y*-intercept, whether the graph opens up or down, and its maximum/minimum value. Then graph the function by completing the table.

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



AOS: _____

vertex: _____

y-int: _____

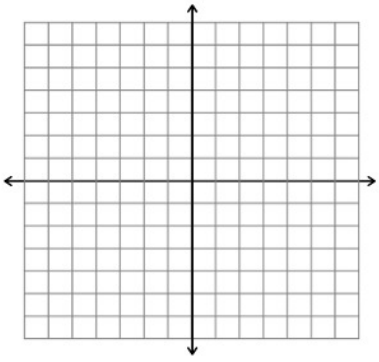
opens: _____

max./min. value: _____

x					
y					

work:

2.) $f(x) = -(x+3)^2 + 5$



AOS: _____

vertex: _____

y-int: _____

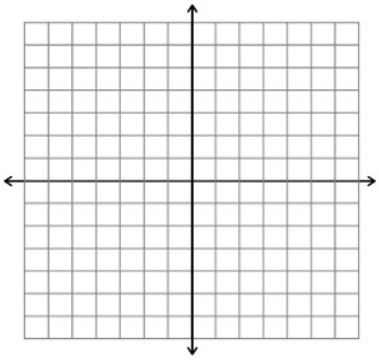
opens: _____

max./min. value: _____

x					
y					

work:

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



AOS: _____

vertex: _____

y-int: _____

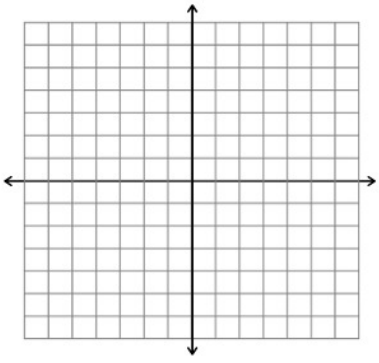
opens: _____

max./min. value: _____

x					
y					

work:

4.) $y = \frac{1}{2}(x-3)^2 + 2$



AOS: _____

vertex: _____

y-int: _____

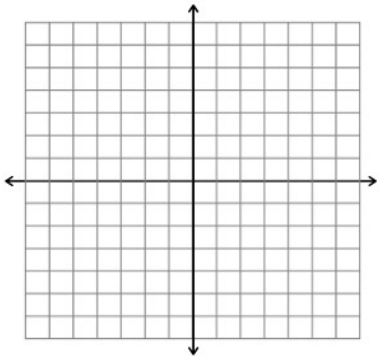
opens: _____

max./min. value: _____

x					
y					

work:

5.) $y = (x + 1)(x - 3)$



AOS: _____

vertex: _____

y-int: _____

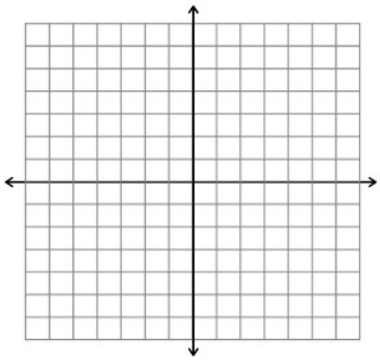
opens: _____

max./min. value: _____

x					
y					

work:

6.) $y = 3(x + 2)(x + 6)$



AOS: _____

vertex: _____

y-int: _____

opens: _____

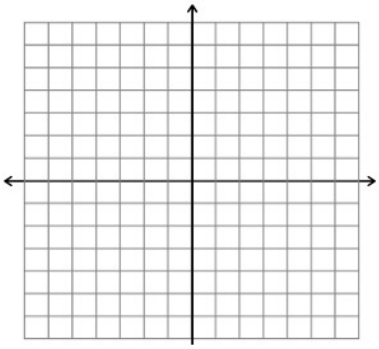
max./min. value: _____

y-axis by 2

x					
y					

work:

7.) $f(x) = 2(x - 5)(x - 1)$



AOS: _____

vertex: _____

y-int: _____

opens: _____

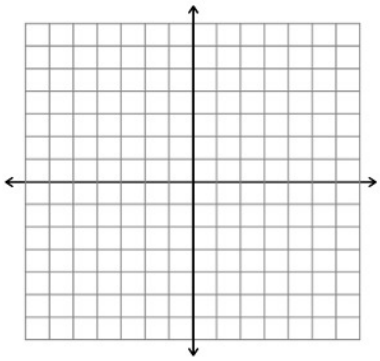
max./min. value: _____

y-axis by 4

x					
y					

work:

8.) $y = (x + 1)(x + 2)$



AOS: _____

vertex: _____

y-int: _____

opens: _____

max./min. value: _____

x					
y					

work:

Write the quadratic function in standard form.

9.) $y = (x + 4)(x + 3)$

10.) $h(x) = 4(x + 1)(x - 6)$

11.) $y = -3(x - 2)(x - 4)$

12.) $f(x) = (x + 5)^2 - 2$

13.) $g(x) = -(x + 6)^2 + 10$

14.) $y = 5(x + 3)^2 - 4$

Tell whether the function has a maximum or minimum value. Then find this value.

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

maximum or minimum (circle)

16.) $g(x) = -4(x + 6)^2 - 12$

maximum or minimum (circle)

17.) $y = 15(x - 25)^2 + 130$

maximum or minimum (circle)

18.) $f(x) = 3(x + 10)(x - 8)$

maximum or minimum (circle)

19.) $y = -12x(x - 9)$

maximum or minimum (circle)

20.) $y = 2(x - 3)(x - 6)$

maximum or minimum (circle)