

Math 2 Unit 10 Worksheet 2

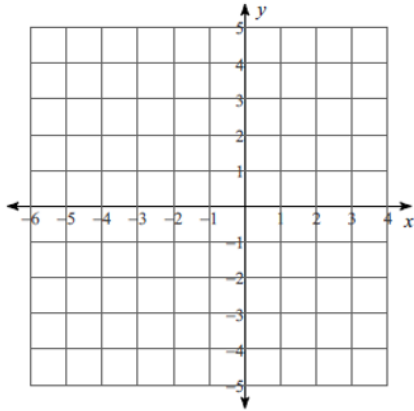
Vertex Form: $y = a(x - h)^2 + k$

Name: _____

Date: _____ **Per:** _____

[1-4] Sketch the graph of each function and find the vertex, domain, range, width, where the axis of symmetry occurs, and what the maximum or minimum of the function is.

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



Vertex: _____

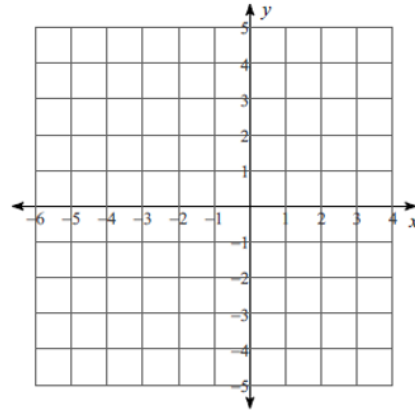
Domain: _____ Range: _____

Wide Narrow Normal

Axis of Symmetry (AOS): _____

Minimum value of the function is: _____

2. $y = -\frac{1}{2}(x + 4)^2 + 5$



Vertex: _____

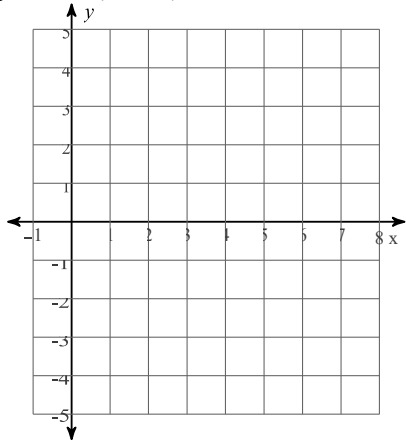
Domain: _____ Range: _____

Wide Narrow Normal

Axis of Symmetry (AOS): _____

Maximum value of the function is: _____

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



Vertex: _____

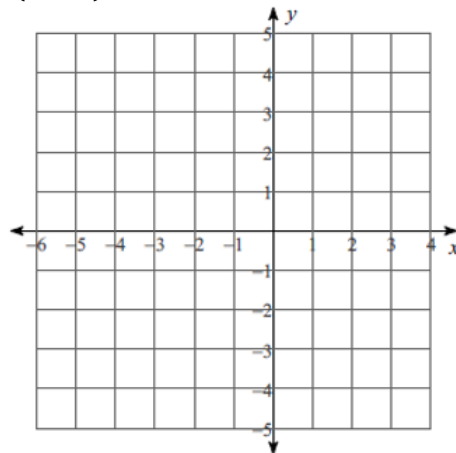
Domain: _____ Range: _____

Wide Narrow Normal

Axis of Symmetry (AOS): _____

Maximum value of the function is: _____

4. $y = (x - 1)^2 + 1$



Vertex: _____

Domain: _____ Range: _____

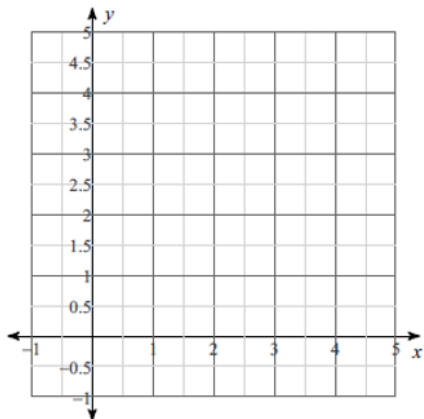
Wide Narrow Normal

Axis of Symmetry (AOS): _____

Minimum value of the function is: _____

[5-8] Sketch the graph of each function and answer the following questions.

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

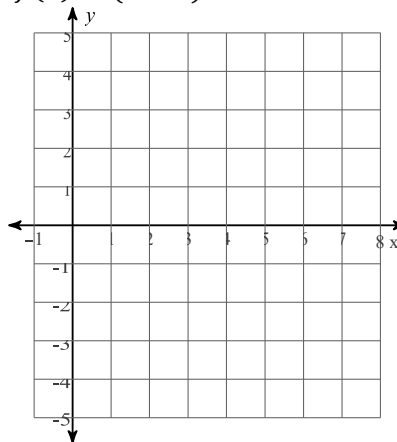


Does the graph have a Max or a Min? _____

The graph is increasing when _____

The graph is decreasing when _____

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

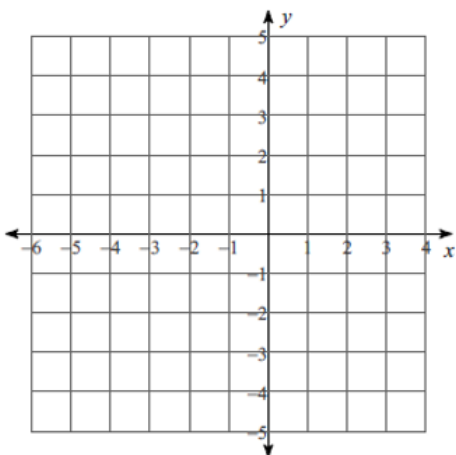


Does the graph have a Max or a Min? _____

The graph is increasing when _____

The graph is decreasing when _____

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

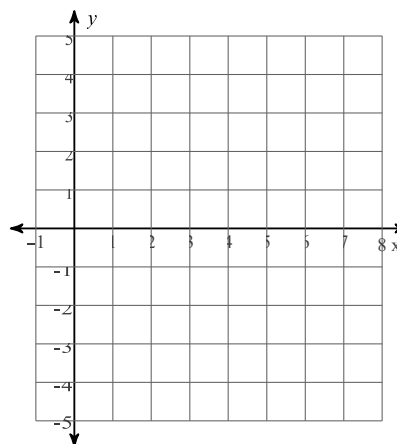


Does the graph have a Max or a Min? _____

The graph is increasing when _____

The graph is decreasing when _____

8. $f(x) = (x - 2)^2 - 1$



Does the graph have a Max or a Min? _____

The graph is increasing when _____

The graph is decreasing when _____

[9-10] Determine if each ordered pair is a solution to the function.

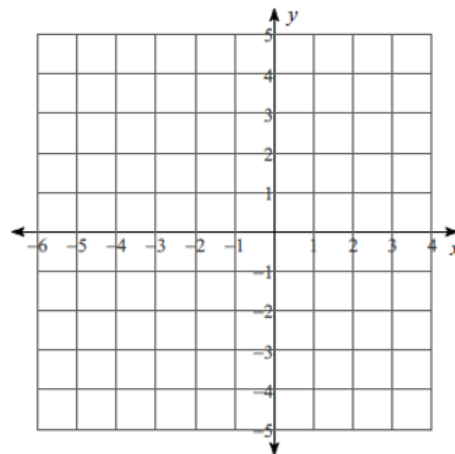
9. Function: $y = x^2 + 3$

	Work	Yes	No
(4, 19)			
(-2, -1)			
(-6, 39)			
(5, 21)			

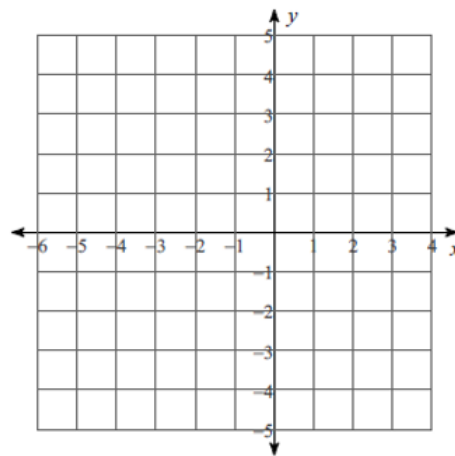
10. Function: $y = -3x^2 + 5$

	Work	Yes	No
(1, 8)			
(2, -7)			
(-1, 2)			
(4, 29)			

11. Graph the functions $f(x) = x^2$ and $g(x) = (x - 2)^2 + 3$. If $f(x)$ is mapped on to $g(x)$, what is the transformation? Write the transformation and describe the shift.



12. Graph the functions $f(x) = x^2$ and $g(x) = (x + 1)^2$. If $f(x)$ is mapped on to $g(x)$, what is the transformation? Write the transformation and describe the shift.



13. Graph the functions $f(x) = -x^2$ and $g(x) = -(x + 3)^2 - 1$. If $f(x)$ is mapped on to $g(x)$, what is the transformation? Write the transformation and describe the shift.

