

PART A – Multiple Choice (10 Marks)

Circle the letter corresponding to the correct solution.

1. What is the stretch factor of the quadratic function $y = -2(x-1)^2 + 4$?

- [A] -1 [B] -2 [C] 2 [D] 4

2. If a quadratic function has a minimum y value of 2, then the function could be ...

- [A] $y = -3(x-5)^2 + 2$ [B] $y = 3(x+5)^2 + 2$ [C] $y = 3(x-2)^2 + 5$ [D] $y = -3(x+2)^2 + 5$

3. Write the following equation in Standard Form... $y = 4(x-3)^2 - 16$

- [A] $y = 4x^2 - 24x + 20$ [B] $y = 4x^2 + 20$ [C] $y = 4x^2 - 12x + 20$ [D] $y = 4x^2 + 24x + 20$

4. What is the y-intercept for the quadratic given by the equation... $y = -\frac{2}{3}(x-3)^2 + 5$?

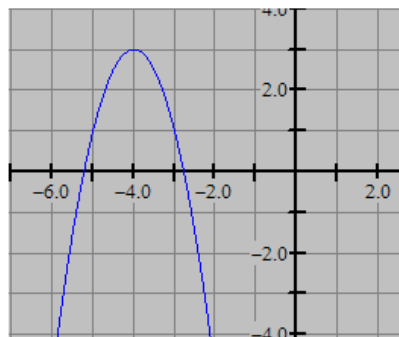
- [A] (0, 2) [B] (0,1) [C] (0, -1) [D] (0, -4)

5. What is the vertex of the quadratic function $y = 2x^2 - 12x + 5$?

- [A] (3, 5) [B] (3, -13) [C] (3, -4) [D] (6, -67)

6. Determine the axis of symmetry for the quadratic shown:

- [A] $x = 2$ [B] $x = -4$
[C] $y = 3$ [D] $y \leq 3$



7. Which of the following has its axis of symmetry given by the equation $x = -3$?

- [A] $y = 2(x-3)^2 + 5$ [B] $y = 2(x+3)^2 + 5$ [C] $y = 2(x-5)^2 - 3$ [D] $y = 2(x-5)^2 - 3$

8. Given the graph of $y = a(x+1)^2 - 7$. If the value of a is replaced by $5a$, then the graph...

- [A] shifts upward [B] shifts downward [C] becomes wider [D] becomes narrower

9. What is the range of the quadratic function... $y = -3(x-2)^2 - 5$

- [A] $\{y \leq 5\}$ [B] $\{y \leq -5\}$ [C] $\{y \geq 5\}$ [D] $\{y \geq -5\}$

10. If the graph of $y = 5(x+1)^2 - 4$ is sketched, which of the following **is not** a possible value of y on the graph?

- [A] 5 [B] 1 [C] -4 [D] -6

PART B – Open Response (30 Marks)
Show all your work in the space that is provided.

1. Complete the following for the equation...

$$y = 3x^2 - 24x + 36$$

a) Vertex Form:

[3]

b) y-intercept

[1]

c) Vertex: _____

[1]

d) Sketch (label 3 key points):

[2]

e) Axis of symmetry: _____

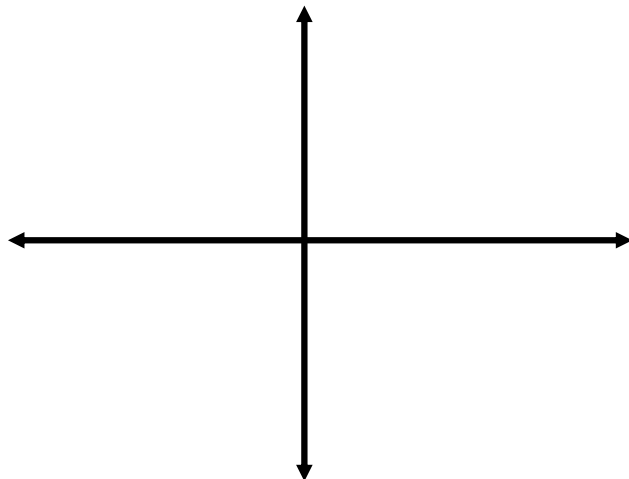
[1]

f) Range: _____

[1]

g) Circle: Maximum / Minimum y-value is _____

[2]



2. Change the following into **standard form** and state the given properties.

[6]

$$y = \frac{2}{3}(x + 6)^2 - 23$$

Vertex	
y-intercept	
Sketch: Must have <u>3 key points</u> labeled	

3. Complete the chart shown for the quadratic: $y = -5(x + 3)^2 + 8$

[13]

Standard Form	
Direction of Opening	
Stretch Factor	
Vertex	
y-intercept	
Domain	
Range	
Equation for Axis of Symmetry	
Maximum OR Minimum	
Minimum /Maximum Value	

Sketch: Must have 3 key points labeled

