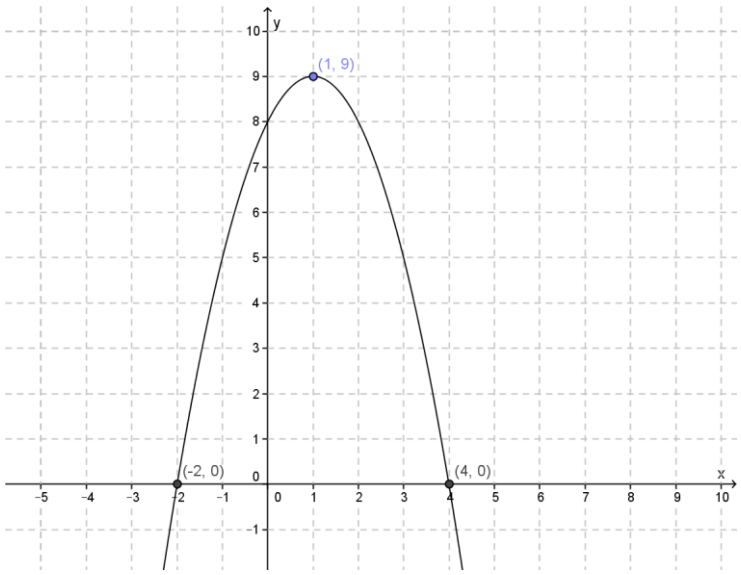
Name: ____ANSWERS_____ **Algebra 2 Task #2** **Date: _____**

1. a) Given the graph below, complete the table that follows.



Features	Values
x-intercepts	**(-2,0) and (4,0)**
y-intercept	**(0,8)**
Vertex	(1,9)
Axis of Symmetry	x = 1

b) i. Based on the same graph above, write the equation for its function in any form you wish.

$y = -(x+2)(x-4)$ **or** $y = -(x-1)^2 + 9$

ii. Name at least one other form that you could have written your equation in.

Vertex Form or Intercept Form depending on your answer for the above

2.

x	-5	-4	-2	0	2	4	5
y	31	17	1	1	17	29	71

a. The table above can be modeled by a quadratic function. What are the y-intercept and line of symmetry? Explain your reasoning.

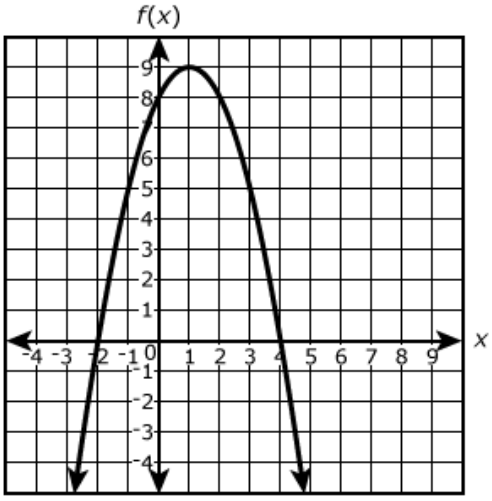
y-intercept and reasoning:

(0,1) because our x-value is 0

Line of symmetry and reasoning:

At -1 or between -2 and 0

3. Consider two functions: $f(x)$ and $g(x)$[i]. The graph of $f(x)$ is shown below. The function $g(x) = -3x + 2$.



a. Is the *y*-intercept of $f(x)$ greater than, less than, or equal to the *y*-intercept of $g(x)$? Explain your answer.

The y-intercept of f(x) is greater than g(x)