

**Unit 4 Test: Quadratic Functions and Quadratic Equations**

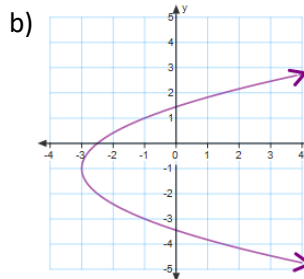
Name: \_\_\_\_\_

Max Marks: 25

Show your thinking on separate paper. Take a picture or scan your responses and attach the picture or scan in an email to your teacher.

1. Determine whether each of the following relations is a function. Justify your answer. [3 marks]

a)  $\{(-3,5), (-2,4), (-1,5), (2,1), (4,2)\}$



2. State the domain of #1 a) and #1 b) above. [2 marks]

3. Complete the chart below. [10 marks]

Equation	$y = \frac{1}{4}(x-2)^2 + 7$	$y = -2x^2 + 12x - 20$ [Hint: Convert to Vertex Form 1 <sup>st</sup> ]
Vertex		
Opens up or down?		
Axis of symmetry ( $x =$ )		
Max/min value and location	Max or min? Value = _____	
Opens faster or slower than $y = x^2$		

4. Solve each of the following using the requested method. [10 marks]

- a)  $x^2 + 8x + 12 = 0$  using the GRAPHING Method. [Hint: Graph the matching parabola and state the x-intercepts.]  
 b)  $3x^2 - 3x - 1 = 0$  using the Quadratic FORMULA Method.  
 c)  $x^2 - 3x - 4 = 0$  using the FACTOR Method.

**Bonus1:** Type/Write out a unique ambiguous word and its definition that few have heard of. [+1]

**Bonus2:** Type/Write out a unique math joke that involves parabolas. [+1]

**My signature indicates that my assignment responses were independently written by me.**

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

~You have reached the end of the 2D journey. Enjoy your summer vacation(s)!!~