

Key

Name: _____

Section: _____

15

You have 15 minutes to complete the quiz. Please **show all work**, and write your answer **on the line provided**.

1. (4 points) Find the equation for the line passing through the points (2, 1) and (4, 2). Write your answer in point-slope form and in slope-intercept form.

$$\text{slope} = m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{2 - 1}{4 - 2} = \frac{1}{2}$$

(2 points:
1 for formula
1 for correct #)

point-slope form

$$y = m(x - x_1) + y_1 \quad \text{OR} \quad y = m(x - x_2) + y_2$$

$$y = \frac{1}{2}(x - 2) + 1 \quad \text{OR} \quad y = \frac{1}{2}(x - 4) + 2$$

point-slope form: _____ (1 pt)

$$y = \frac{1}{2}x - \frac{2}{2} + 1$$

$$y = \frac{1}{2}x - \frac{4}{2} + 2$$

slope-intercept form: $y = \frac{1}{2}x$ (1 pt)

2. (2 points) First describe in words (or sketch) what the graph looks like. Then, identify the vertex of the parabola?

$$h(x) = (x - 2)^2 + 1$$

(1 pt)

[x^2 moved right 2
and up 1]



(1 pt)

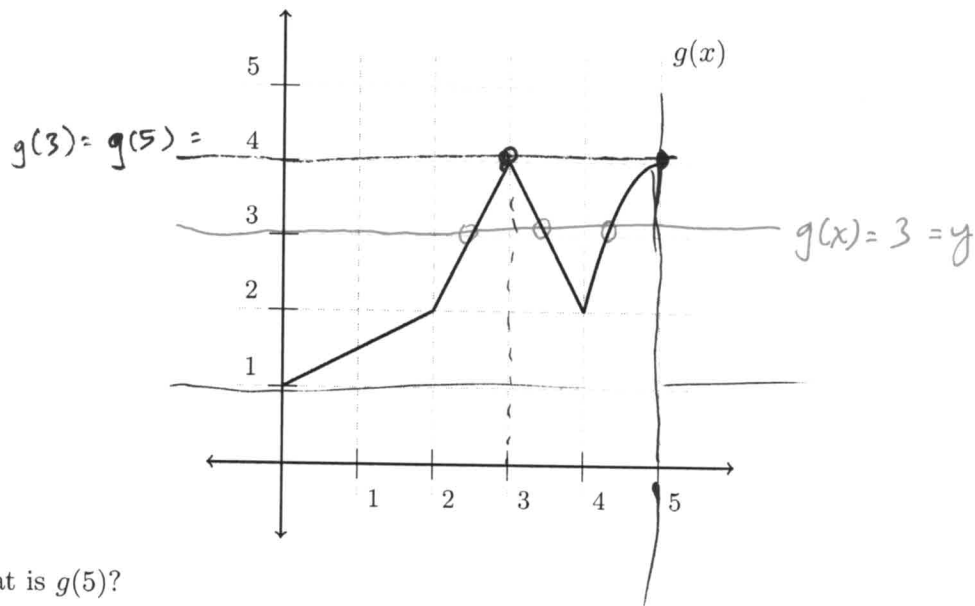
[Vertex: $(2, 1)$]

NOTE: QUIZ IS CONTINUED ON BACK.

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3. (4 points) The graph of a function g is given below.



(a) What is $g(5)$?

$$g(5) = 4$$

(b) What is $g(3)$?

$$g(3) = 4$$

(c) What is the domain of g ?

defined for x between 0 & 5
& including

$$[0, 5]$$

(d) What is the range of g ?

g outputs all #'s between and including
1 and 4

$$[1, 4]$$

(e) (1 point extra credit): How many solutions are there to the equation $g(x) = 3$?

three solutions