

## Unit 2: Linear Functions – Quiz 1

Name Exemplar PER \_\_\_\_\_ DATE \_\_\_\_\_

FIF6	FLE2	FLE5

*Computation*

4	3	2	1
Response has no recall errors, <i>minimal</i> procedural errors* and no conceptual errors**	Response has no recall errors, minimal procedural errors and <i>minimal</i> conceptual errors	Response has no recall errors, but has several procedural errors <u>OR</u> several conceptual errors	Recall errors exist <u>OR</u> Steps taken are not related to problem <u>OR</u> Response left blank

*Written Responses*

4	3	2	1
Response is written in a complete sentence and uses appropriate academic vocab	Response is written in a complete sentence, and minimal errors exist in use of academic vocab	Response is not written in a complete sentence <u>OR</u> no academic vocab	Concept of response is not related to problem <u>OR</u> Response is left blank

\***Procedural errors** are mistakes made in the math\*\***Conceptual errors** are mistakes made in the steps one take

<b>BOX YOUR ANSWERS!!!</b>
----------------------------

Show your work and box your answer for the question below.

1. (FIF6) The table below shows the height a competitive water-skier reached  $x$  seconds after jumping off a ramp.

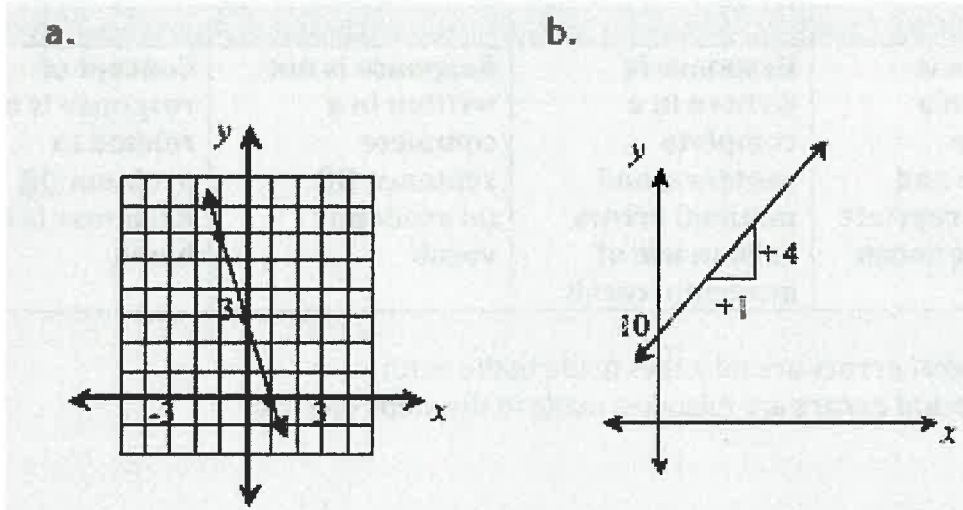
Time (seconds), $x$	0	0.25	0.75	1	1.1
Height (feet), $y$	22	22.5	17.5	12	9.24

What is the average rate of change, in feet per second, between  $x = 0.25$  and  $x = 1.1$ ?

*slope*
*units*

$$\frac{y_2 - y_1}{x_2 - x_1} \rightarrow \text{slope} = \frac{9.24 - 22.5}{1.1 - 0.25} = \frac{-13.26}{0.85} = -15.6 \text{ feet per second}$$

2. (FLE2) Write a rule for each graph below. Box your answers!



$$m = \frac{-3}{1} \quad b = 3$$

$$y = -3x + 3$$

$$m = \frac{4}{1} \quad b = 10$$

$$y = 4x + 10$$

Show your work and box your answer for the question below.

1. (FIF6) The table below shows the height a competitive water-skier reached  $x$  seconds after jumping off a ramp.

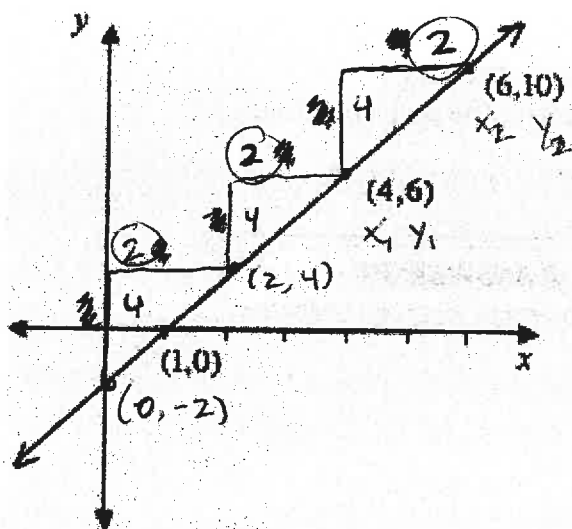
Time (seconds), $x$	0	0.25	0.75	1	1.1
Height (feet), $y$	22	22.5	17.5	12	9.24

What is the average rate of change, in feet per second, between  $x = 0.25$  and  $x = 1.1$ ?

2. (FLE2) Three points are named on the line at the right.

a. Find two more points that lie on the line to the right. Show or explain how you found your answer.

b. Write an equation for the line. Verify your rule is correct using one of the original points.



$$m = \frac{10 - 6}{6 - 4} = \frac{4}{2} = 2$$

$$y = mx + b$$

$$10 = 2(6) + b$$

$$10 = 12 + b$$

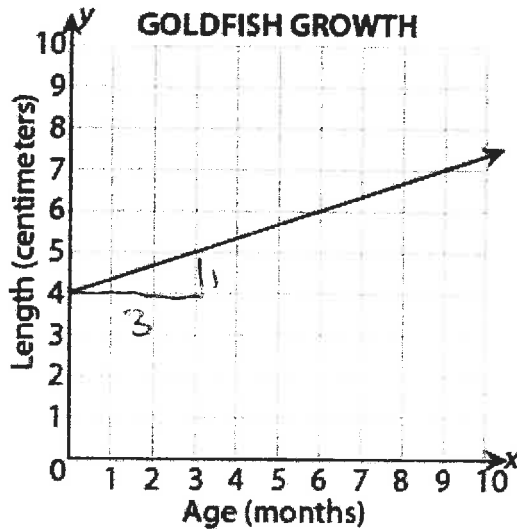
$$-12 \quad -12$$

$$-2 = b$$

$$y = 2x - 2$$

Two other points  
 $(0, -2)$  and  $(2, 4)$

3. (FLE.5) Rosa buys a goldfish. The relationship between time in months and the length of the goldfish in centimeters is shown on the graph.



What are the slope and  $y$ -intercept of the function? What do the slope and the  $y$ -intercept mean in relation to Rosa's goldfish? Explain.

The slope is  $\frac{1}{3}$  and it represents the rate the length of the goldfish is changing. It's growing  $\frac{1}{3}$  cm each month.

The  $y$ -intercept is 4, meaning in month 0, the goldfish was 4 cm long.