

Unit 1: Functions - Assessment

Name Exemplar PER _____ DATE _____

FIFA1	FIFA2	AREID10	FIFC7	FIFB5

Computation

4	3	2	1
Response has no recall errors, <i>minimal</i> procedural errors* and no conceptual errors**	Response has no recall errors, <i>minimal</i> 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

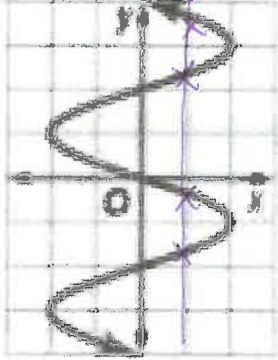
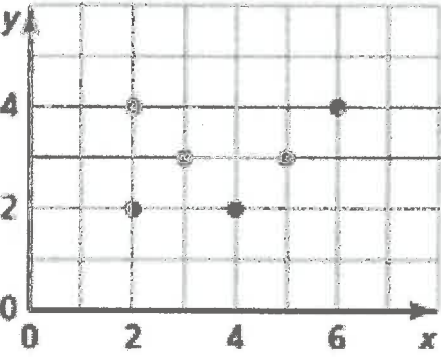
4	3	2	1
Response is written in a complete sentence and uses appropriate academic vocab	Response is written in a complete sentence, and minimal errors exist in use of academic vocab	Response is not written in a complete sentence <u>OR</u> no academic vocab	Concept of response is not related to problem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

BOX YOUR ANSWERS!!!

1. (FIFA1) Three relations are shown below. Determine which of these relations are functions. Justify why it is a function and why it is not a function in the space provide.

	<p>This relation is not a function since several inputs have multiple outputs.</p>
	<p>This relation is not a function because the input of $x=2$ has two outputs $y=2$ and 4.</p>

Sentence Starter

This relation is a function because ---

This relation is not a function because...

2. FIFA2) Calculate $f(4)$ for each function listed below. Show your work and write your answers in the spaces provided.

a. $f(x) = \left(\frac{1}{5}\right)^x$

a. $f(4) = \left(\frac{1}{5}\right)^4 = \frac{1}{5} \cdot \frac{1}{5} \cdot \frac{1}{5} \cdot \frac{1}{5} = \frac{1}{625}$

b. $f(x) = 3x - 12$

b. $f(4) = 3(4) - 12 = 12 - 12 = 0$

c. $f(x) = (x - 2)^3 - 6$

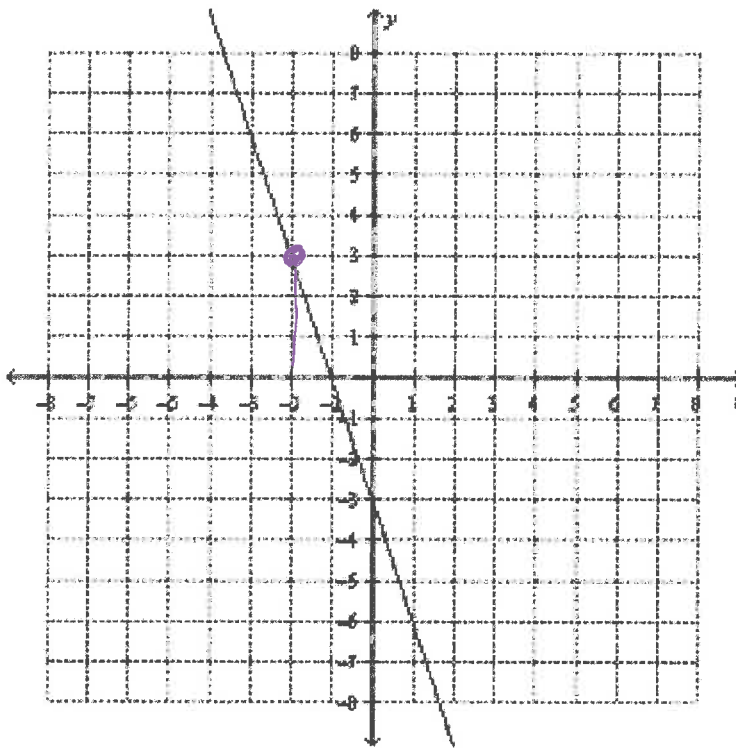
c. $f(4) = (4 - 2)^3 - 6 = 8 - 6 = 2$

a. $f(4) = \frac{1}{625}$

b. $f(4) = 0$

c. $f(4) = 2$

3. (AREID10) Which choice is the correct equation for the line graphed below?
Justify why you chose the graph in the space below.



$$y = -3x - 2 \quad \begin{array}{l} -3(-2) - 2 = \\ 6 - 2 = 4 \quad X \end{array}$$

$$y = 3x - 3 \quad \begin{array}{l} 3(-2) - 3 = \\ -6 - 3 = -9 \quad X \end{array}$$

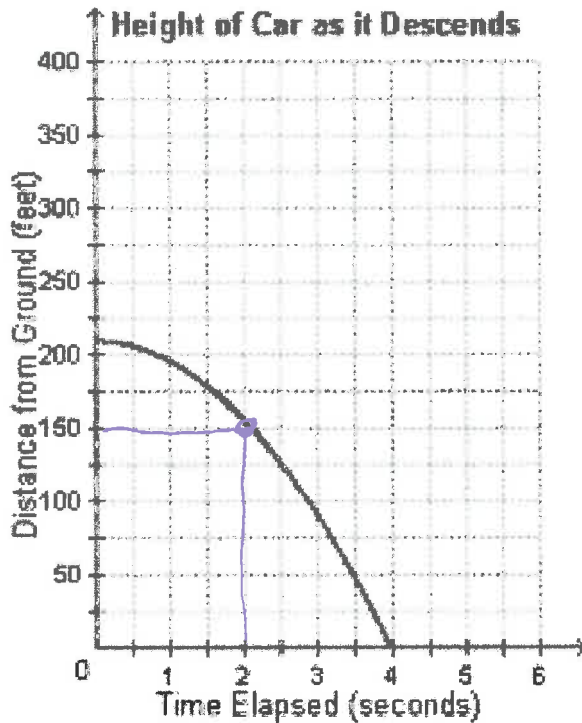
$$y = -3x - 3 \quad \begin{array}{l} -3(-2) - 3 = \\ 6 - 3 = 3 \quad \checkmark \end{array}$$

The equation $y = -3x - 3$ matches the given graph since when I evaluated each function at $x = -2$, only one produced an output of $y = 3$.

Sentence Starter

The equation _____ matches the given graph since...

4. (FIFC7) Gianni is in a car at the top of a roller coaster ride. The distance, d , in feet, of the car from the ground as the car descends is determined by the equation $d = 192 - 12t^2$, where t is the number of seconds it takes the car to travel down to each point of the ride.



a. What is the car's height after 2 seconds, according to the graph?

~~After 2 seconds, the car's height~~

The car's height after 2 seconds is 150 ft since the y value

b. How many seconds will it take Gianni to reach the ground? @ $x=2$ is 150 ft.

Gianni will reach the ground at

4 seconds since the ~~graph~~ y-value is 0 ft at

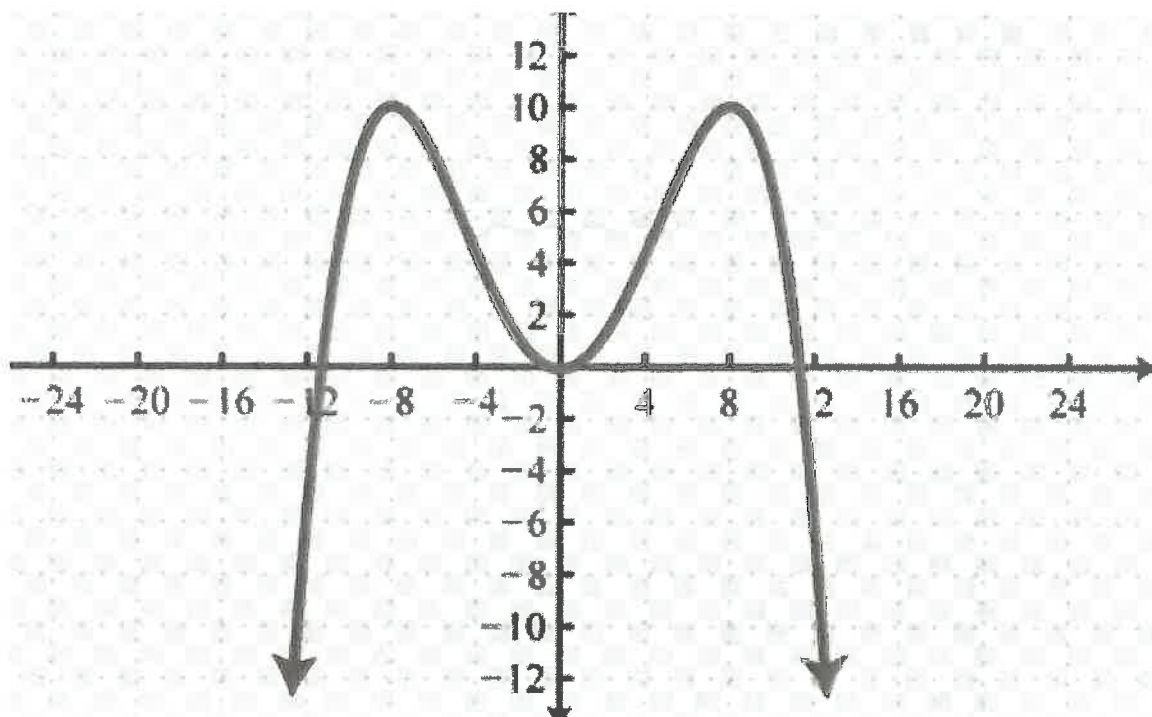
Sentence Starter

4 seconds.

The car's height after 2 seconds is _____ since _____.

Gianni will reach the ground at _____ since _____.

5. (FIFB5) What is the domain and range of the function shown below? Write your answer in the space provided.



DOMAIN: $-\infty < x < \infty$

RANGE : $-\infty < y \leq 10$