## Unit 5: Sequences (and Making Sense of Units)- Assessment

Name Exemp	lar	PER	DATE
17			

FIFA3	NQA1		

Computation

4	3	2	1
Response has no recall errors, minimal procedural errors* and no conceptual errors**	Response has no recall errors, minimal procedural errors and minimal conceptual errors	Response has no recall errors, but has several procedural errors OR 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 OR no academic vocab	Concept of response is not related to problem <u>OR</u> Response is left blank

<sup>\*</sup>Procedural errors are mistakes made in the math

**BOX YOUR ANSWERS!!!** 

<sup>\*\*</sup>Conceptual errors are mistakes made in the steps one take

## (FIFA3) Show your work and answer the questions below.

The cost of a ride in a taxi is \$2.50 for the first quarter-mile plus a constant amount per quarter-mile after that. The sequence below shows the pattern of numbers that appear on the driver's screen.

a. Write a recursive function that can be used to determine and, the cost in dollars, for a ride in the taxi of n quarter-miles.

b. What is the cost, in dollars, for a 10-mile ride in the taxi?

\$2.50 + 0.25 (39)=

first quarter 39 more

mile - quarter miles

2. (FIFA3) Answer the question below.

A geometric sequence is shown below.  $12, -6, 3, -1.5, \dots$ 

## What is an explicit representation for the nth term of the sequence?

In the space below, write an equation of the form  $a_n = AB^n$  that represents the sequence above.

$$a_n = 12(-\frac{1}{2})^{n-1}$$
  $a_i$ 

$$a_1 = 12(-\frac{1}{2})^{-1}$$

$$= 12(-\frac{1}{2})^{0}$$

$$= 12(1)$$

$$= 12\sqrt{1}$$

3. (FIFA3) Annotate the sequence below and write your answer in the space below.

A sequence is shown below.

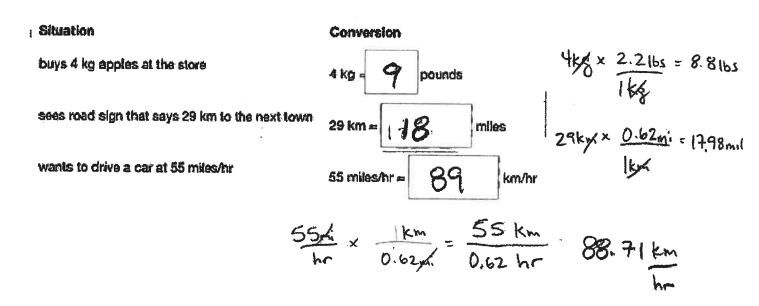
Which function defines the nth term of the sequence?

4. (NQA1) Show your work and box your answer for the problem below.

Light travels at about 300.000,000 meters per second. What is this speed in kilometers per hour? Show your work.

Kathryn and her family moved from the United States to South America and are getting accustomed to using metric measurements in everyday life. Complete the conversion for each situation described in the table. Use the information below for your calculations, and then round any decimals to the nearest whole number for your answers.

1 kg  $\approx$  2.20 pounds 1 km  $\approx$  0.62 miles



6. (NQA1) Annotate the problem below and set up the necessary ratios. Then, choose the best possible answer.

Nancy squeezes lemons to make lemonade. She can squeeze 32 cunces of lemon juice in 20 minutes. Which of these unit rates describes Nancy's average rate of squeezing lemon juice? Choose ALL that are correct.