

Ch. 5 – Sequences (and Making Sense of Units)
Quick Check

Name Answer Key PER _____ DATE _____

For each problem, show your work and circle the correct answer(s).

FIFA3

1 Joe rolls a ball down a long street.

- After 1 second, it has rolled 4.9 meters;
- After 2 seconds, it has rolled 14.7 meters;
- After 3 seconds, it has rolled 24.5 meters;
- After 4 seconds, it has rolled 34.3 meters.

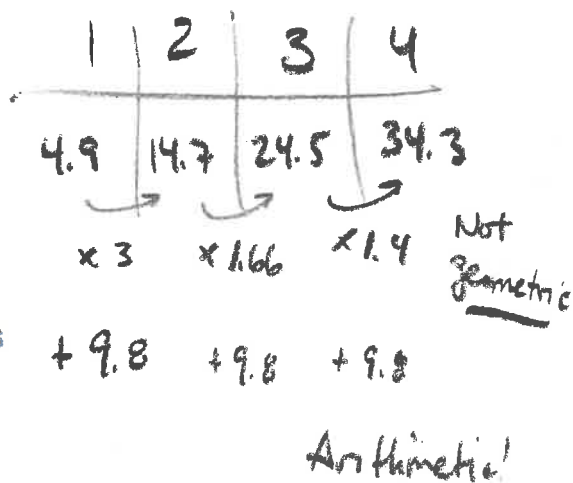
Which function represents a sequence that gives the distance the ball has rolled after n seconds, using $n = 1, 2, 3, 4, \dots$? Choose ALL that are correct.

~~A.~~ $f(n) = 4.9^n$

B. $f(n) = 9.8n - 4.9$

C. $f(n) = 9.8(n - 1) + 4.9$

D. $f(n) = 9.8n$



2 The first four terms in a sequence are shown below.

$$9, -18, 36, -72, \dots$$

What is the recursive formula to determine a_n , the n^{th} term of the sequence?

The first equation in the recursive formula is $a_1 = 9$.

Write a second equation in the recursive formula in the space below.

$$a_{n+1} = -2(a_n)$$

NQA1

- 3 Bryan wants to convert a speed of 85 kilometers per hour into the equivalent speed in meters per second. Which expression shows the correct conversion?

$$85 \frac{\text{km}}{\text{hr}} \rightarrow ? \frac{\text{m}}{\text{sec}}$$

- A. $85 \frac{\text{km}}{\text{hr}} \times \frac{1000 \text{ m}}{1 \text{ km}} \times \frac{3600 \text{ sec}}{1 \text{ hr}}$
- B. $85 \frac{\text{km}}{\text{hr}} \times \frac{1 \text{ km}}{1000 \text{ m}} \times \frac{1 \text{ hr}}{3600 \text{ sec}}$
- C. $85 \frac{\text{km}}{\text{hr}} \times \frac{1000 \text{ m}}{1 \text{ km}} \times \frac{1 \text{ hr}}{3600 \text{ sec}}$
- D. $85 \frac{\text{km}}{\text{hr}} \times \frac{1 \text{ km}}{1000 \text{ m}} \times \frac{3600 \text{ sec}}{1 \text{ hr}}$

This option allows the km and hr to be cancelled.

- 4 A European car company advertises that one of its cars can go more than 100 kilometers on 7 liters of gasoline. Use the information below to determine the gas mileage of the car in miles per gallon.

- 1 liter \approx 0.26 gallons
- 1 mile \approx 1.61 kilometers

$$7 \text{ L} \times \frac{0.26 \text{ gal}}{1 \text{ L}} = 1.82 \text{ gal}$$

7 liters of gas = 1 1.82 gallons of gas

100 kilometers = 2 62.11 miles

$$100 \text{ km} \times \frac{1 \text{ mile}}{1.61 \text{ km}} = 62.11 \text{ miles}$$

7 liters per 100 kilometers = 3 34.1 miles per gallon

$$\hookrightarrow \frac{62.11 \text{ miles}}{1.82 \text{ gal}} = 34.1 \frac{\text{miles}}{\text{gallon}}$$