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 $n = 1, 2, 3, 4, \ldots$? Choose ALL that are correct.

1	2	3	4
4.9	14.7	24.5	34.3
	×3	×1.66	×1.4
	+9.8	+9.8	+9.8

Not Geometric

Arithmetic!

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, . . .

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

equal

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?

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

A. $85\frac{km}{hr} \times \frac{1000\ m}{1\ km} \times \frac{3600\ sec}{1\ hr}$

B. $85\frac{km}{hr} \times \frac{1\ km}{1000\ m} \times \frac{1\ hr}{3600\ sec}$

C. $85\frac{km}{hr} \times \frac{1000\ m}{1\ km} \times \frac{1\ hr}{3600\ sec}$ This option allows the km and hr to be cancelled.

D. $85\frac{km}{hr} \times \frac{1\ km}{1000\ m} \times \frac{3600\ sec}{1\ hr}$

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 ≈ 0.26 gallons
- 1 mile ≈ 1.61 kilometers

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

7 liters of gas = 1 [1.82] gallons of gas

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

100 kilometers = 2 [62.11] miles

7 liters per 100 kilometers = 3 [34.1] miles per gallon

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