

# UNIT 3 QUIZ REVIEW

Name: \_\_\_\_\_

**Part 1: Multiple Choice Practice** – Answer the following questions below based on your knowledge of congruent triangles.

1) Which of the following characteristics is true of Quadratic Function?

- A. They have a common difference      B. They will form a line graph  
C. They have a common second difference      D. They multiply or divide to get the next term

2) Given the table below, what explicit equation describes the data?

- A.  $f(x) = 36 \cdot 3^{x-1}$       B.  $f(x) = 3 \cdot 36^{x-1}$   
C.  $f(x) = 36 + 3(x - 1)$       D.  $f(x) = 3 + 36(x - 1)$

$x$	1	2	3	4	5
$y$	36	108	324	972	2916

3) Identify the rate of change in the representation:  $f(2) = 6$  and  $f(4) = 12$

- A. 4      B. 2      C. 6      D. 3

4) Determine which model is most appropriate for the set of data in the table. Show work to support your answer.

$x$	$y$
1	16
3	22
6	31
9	40

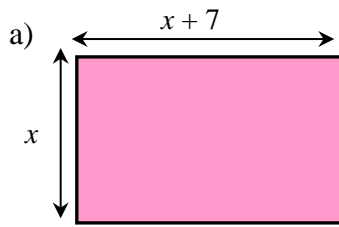
- A. Linear      B. Exponential  
C. Quadratic      D. Other

5) The value of a car over several years is shown in the table. Determine which model is most appropriate for the data. Show work to support your answer.

Age (years)	Value (dollars)
0	25,000
1	17,450
2	12,250
3	8,600
4	6,000

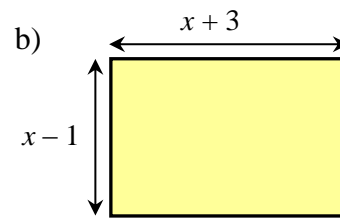
- A. Linear      B. Exponential  
C. Quadratic      D. Other

6) Find algebraic expressions for the perimeter and area of these rectangles.



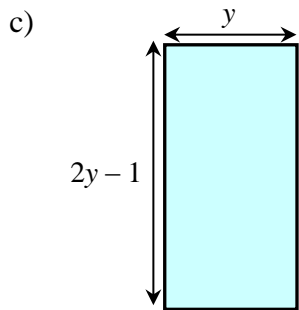
Perimeter: \_\_\_\_\_

Area: \_\_\_\_\_



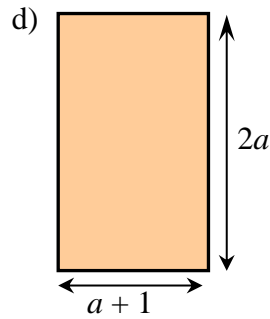
Perimeter: \_\_\_\_\_

Area: \_\_\_\_\_



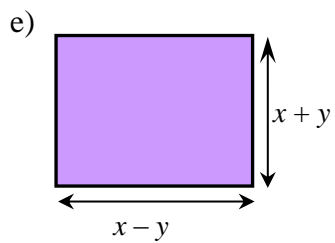
Perimeter: \_\_\_\_\_

Area: \_\_\_\_\_



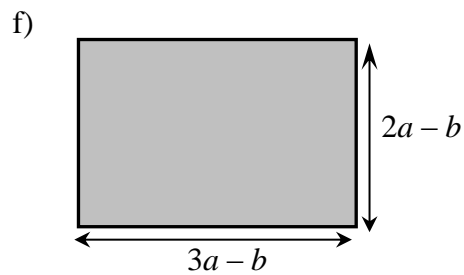
Perimeter: \_\_\_\_\_

Area: \_\_\_\_\_



Perimeter: \_\_\_\_\_

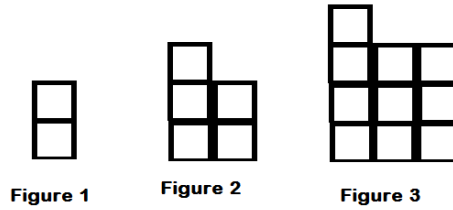
Area: \_\_\_\_\_



Perimeter: \_\_\_\_\_

Area: \_\_\_\_\_

7) Here are the first three figures in a growing pattern.



a) Write a **recursive rule** for finding the **total area** of the  $n$ th figure in the pattern.

b) Write an **explicit rule** for finding the **total area** of the  $n$ th figure in the pattern.

c) Write a **recursive rule** for finding the **perimeter** of the  $n$ th figure in the pattern.

d) Write an **explicit rule** for finding the **perimeter** of the  $n$ th figure in the pattern.

Use differences to identify the type of function represented by the table of values and write their recursive and explicit equations below. If the table models a quadratic function, do not complete recursive equation.

8)

$x$	$f(x)$
1	-1
2	2
3	7
4	14
5	23
6	34

Type: \_\_\_\_\_

Recursive Rule:

Explicit Rule:

9)

$x$	$f(x)$
1	32
2	16
3	8
4	20
5	29
6	40

Type: \_\_\_\_\_

Recursive Rule:

Explicit Rule:

10)

$x$	$f(x)$
-3	-5
-2	1
-1	7
0	13
1	19
2	25
3	41

Type: \_\_\_\_\_

Recursive Rule:

Explicit Rule:

11)

$x$	$f(x)$
1	4
2	10
3	18
4	28
5	40

Type: \_\_\_\_\_

Recursive Rule:

Explicit Rule:

**Simplify & Classify:**

12)  $(4xy^3)(-6x^6y^2)$

13)  $\frac{-20z^3w^5}{25z^7w^5}$

14)  $(2x - 5)(4x + 7)$

15)  $\frac{2}{5}y(10x^2 - 15y) - \frac{1}{7}(49x^2 + 14) - 3$

16)  $(3x - 1)(x^2 - 5x + 4)$

17)  $(7x^4 - 3x + 1) + (3x^2 + 7x - 4)$

18)  $-9g^2 - (3 - 2g^2) + 3(-5g^2 + 4)$