

AD# _____

Algebra 2019 Review

Name: _____

1.

Use the given information to find an equation of the line.

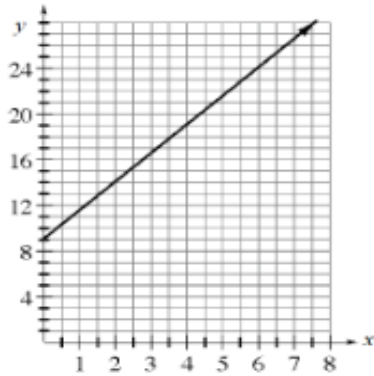
a. Slope 2 and passing through (10, 17).

b. Passing through (1, -4) and (-2, 5).

c.

x	-6	-3	0	3	6
y	-6	-4	-2	0	2

d.



a)

b)

c)

d)

2. Solve the system of equations

$$4x = -13 + y$$

$$3x + 3y = 4 + y$$

3. Simplify

a.

$$\frac{(3y)^3 z^{-2}}{9y \cdot y^4 z^{-1}}$$

b.

$$\frac{42a^{-1}b^5c^{-3}}{60a^5b}$$

4. Consider the following sequence: $-5, -1, 3, \dots$
- Is this sequence arithmetic or geometric? How can you tell?
 - Is 109 a term in this sequence? If so, what term number is it? If not, why not? Explain.
 - Write an explicit equation for this sequence.
 - Describe the domain for this sequence.
5. An arithmetic sequence has $t(3) = 56$ and $t(8) = 96$. Write an explicit equation for the sequence. What is $t(5)$?
6. The π Phone 8 is coming out! Two thousand π Phones have been preordered and the local store expects to sell 5% more each week.
- Write an explicit equation to find the number of π Phones sold during the n^{th} week.
 - Now, write a recursive equation to model the situation.
 - How many π Phones should the store expect to sell in the second week? Show your process.

7. Based on the growth (the difference in y -values) shown in the tables, identify the corresponding graph as *linear*, *exponential*, *quadratic*, or *neither*. Then, write an explicit equation.

x	-3	-2	-1	0	1	2	3
f(x)	18	8	2	0	2	8	18

Type of graph:

Equation:

x	-3	-2	-1	0	1	2	3
f(x)	$\frac{4}{27}$	$\frac{4}{9}$	$\frac{4}{3}$	4	12	36	108

Type of graph:

Equation:

x	-3	-2	-1	0	1	2	3
f(x)	14	11	8	5	2	-1	-4

Type of graph:

Equation:

8. Five burritos and two tacos cost \$27.95. One burrito and one taco costs \$6.85. Write a system of equations and find the cost of each item.

9. For each sequence defined recursively, write the first five terms and then define it explicitly.

a. $t(1) = 8$

$$t(n+1) = t(n) - 5$$

$$a_1 = 64$$

b. $a_{n+1} = \frac{1}{4}a_n$

10. Solve for x. $4x(x - 5) = (2x - 4)^2$

11. Complete the F/D/P Table:

Fraction (simplified)	Decimal	Percent %
$\frac{1}{3}$		
	.07	
		70%
$1\frac{1}{4}$		
	.105	
		2.2%
$\frac{5}{8}$		
	.06	
		60%
$1\frac{1}{2}$		
	.15	
		12.5%