Math-2	Name		ID: 1
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SM2 HW #3-5 (Review)		Date	Period

# Write the slope-intercept form of the equation of the line through the given points.

1) through: (1, -2) and (0, -3) 2) through: (-2, -2) and (4, -4)

## Write the slope-intercept form of the equation of the line described.

3) through: (-4, 3), perp. to y = 4x - 24) through: (-3, 5), perp. to y = x - 1

Solve each equation.

5) 
$$5 - 10|n+6| = -75$$
 6)  $8|p-9| + 2 = 114$ 

## Solve each inequality and graph its solution.

7) 
$$-8 | a+1 | -6 > -78$$
  
 $-12 -8 -4 -0 -4 -8 -4 -0 -4 -8 = 0$ 
8)  $2 | x-1 | -9 < 1$   
 $-6 -5 -4 -3 -2 -1 0 -1 -2 -3 -4 -5 -6 -7 -8 -9$ 

### Solve each equation.

9) 
$$110 = -2(1 - 8n)$$
  
10)  $v + 5(8v - 7) = -363$ 

#### Simplify. Your answer should contain only positive exponents.

11)  $x^4y^4 \cdot yx^3$  12)  $4x^3y^{-4} \cdot 3x^4y^0$ 

13) 
$$(2x^{-4}y^{4}z^{-2})^{-2}$$
 14)  $(2pr^{-3})^{4}$ 

15) 
$$\frac{2m^{-4}n^{-1}}{(2m^{-4}n^3)^3}$$
 16)  $\left(\frac{2ba^{-3}}{a^4}\right)^{-2}$ 

## Factor the common factor out of each expression.

17) 
$$27 + 15x - 3x^3$$
 18)  $54x^5 - 12x^4 + 48x^3$ 

- 19) Solve the following formula for 'V".
- 20) Solve the following formula for 'T".

PV = NRT

$$E = \frac{1}{2}MV^2$$

### Find each product.

21) (6x-2)(7x-4) 22) (6p+5)(5p+3)

23)  $(6n+5)(3n^2+4n+4)$  24)  $(5k-4)(4k^2-8k+8)$ 

- 25) In 1967, the XYZ Paint Company had 75 employees. In 1990, it had 103 employees. Assuming that the number of employees increases linearly with time:
  - a) Find the equation that models this situation. (Please use variables that make sense.)
  - b) What are the units of slope?
  - c) How many employees will the company have in 2019?

d) Draw a graph of this situation. Make sure your axes are properly labeled with the correct quantities and units of measure.



- 26) In 2010, the Palmer Motor Company sold 50 vehicals. In 2012, it sold 85 vehicals. Assuming that the number of cars sold increases linearly with time:
  - a) Find the equation that models this situation. (Please use variables that make sense.)
  - b) What are the units of slope?
  - c) How many cars will they sell in 2019?

d) Draw a graph of this situation. Make sure your axes are properly labeled with the correct quantities and units of measure.

