

Warm-Up: Wednesday 2/21/18

x	
0	2
1	10
2	50

↘ ×5
↘ ×5

1. If the points (0, 2) and (2, 50) lie on an exponential curve, what is the common ratio?

$$r = 5$$

2. If the points (0, 2) and (2, 50) lie on a linear graph, what is the slope?

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{50 - 2}{2 - 0} = \frac{48}{2} = 24$$

$$m = 24$$

3. A population is growing by 9.5% each year. If the population starts with 30,000 people, write an explicit equation to represent the amount of people after n years.

.095

$$y = a \cdot r^x$$

a. Explicit: $y = 30,000(1.095)^n$

b. How many people will be there after 6 years?

$$30000(1.095)^6 = 51714$$

n	f(n)
0	30,000
1	32,850
2	
3	

100% + 9.5%

109.5%

$$\frac{32850}{30000} = 1.095$$

