

Math Problem Assignment 1**Name: Neal Nelson**[Show Scored View](#)

#1 Points possible: 1. Total attempts: 2

A town's population has been growing linearly. In 2003 the population was 26,000. The population has been growing by 1700 people each year.

Write an equation for the population, P , x years after 2003.

$P =$ _____

Use the formula to find the population in 2009: _____

$1700 \cdot x + 26000$
36200

#2 Points possible: 1. Total attempts: 2

Is $y = 70x - 89$ increasing or decreasing.

- increasing
 decreasing

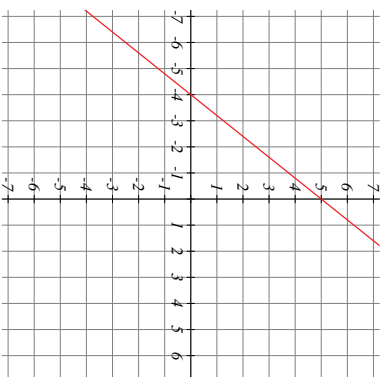
#3 Points possible: 1. Total attempts: 2

Find the slope of the line that goes through the points $(-1, 5)$ and $(3, -1)$.

Slope, $m =$ _____

Enter your answer as an integer or a reduced fraction in the form A/B
 $\frac{-1 - (4)}{3 - (-15)} = -\frac{5}{18}$ which reduces to $-\frac{5}{18}$ (if it's not already reduced)

#4 Points possible: 1. Total attempts: 2



Find the slope of the line.

Slope = $m =$ _____

Enter your answer as an integer or as a reduced fraction in the form A/B .
 $\frac{5}{4}$

#5 Points possible: 1. Total attempts: 2

A city's population in the year $x = 1983$ was $y = 3,627,600$. In 1998 the population was 3,632,100.

Compute the slope of the population growth (or decline) and choose the most accurate statement from the following:

- The population is decreasing at a rate of 300 people per year.
 The population is increasing at a rate of 450 people per year.
 The population is increasing at a rate of 350 people per year.
 The population is decreasing at a rate of 350 people per year.
 The population is decreasing at a rate of 450 people per year.
 The population is increasing at a rate of 300 people per year.

The population is increasing at a rate of 300 people per year.

#6 Points possible: 1. Total attempts: 2

On a bicycle, Shannon rides for 8 hours and is 74 miles from her house. After riding for 10 hours, she is 92 miles away.

What is Shannon's rate?

9 _____ miles per hour mph

#7 Points possible: 1. Total attempts: 2

A phone company charges for service according to the formula: $C'(n) = 10 + 0.11n$, where n is the number of minutes talked, and $C'(n)$ is the monthly charge, in dollars.

The rate of change in this equation is: _____

The initial value in this equation is: _____

0.1

Dollars per Minute

10

Dollars

#8 Points possible: 1. Total attempts: 2

Terry is skiing down a steep hill. Terry's elevation, $E(t)$ in feet after t seconds is given by $E(t) = 3000 - 50t$.

The equation tells us that Terry started _____ and his _____ is _____ by _____ at an elevation of _____
 3000
 feet
 elevation
 decreasing
 50
 feet each second

#9 Points possible: 1. Total attempts: 2

If $f(x)$ is a linear function, $f(-1) = 4$, and $f(2) = -1$, find an equation for $f(x)$

$f(x) =$ _____
 $-\frac{5}{3}x + \frac{7}{3}$

#10 Points possible: 1. Total attempts: 2

A clothing business finds there is a linear relationship between the number of shirts, n , it can sell and the price, p , it can charge per shirt. In particular, historical data shows that 2000 shirts can be sold at a price of \$16, while 3000 shirts can be sold at a price of \$7. Give a linear equation in the form $p = mn + b$ that gives the price p they can charge for n shirts.

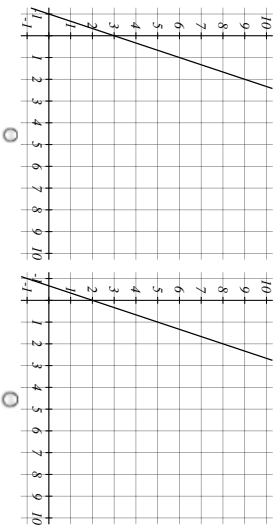
Answer: $p =$ _____

Round the value of your slope to three decimal places. Be careful to use the proper variable and use the Preview button to check your syntax before you submit your answer:
 $-0.009 \cdot n + 34$

#11 Points possible: 1. Total attempts: 2

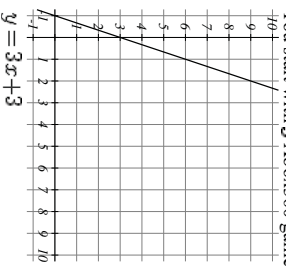
Below, one description, one graph, and one equation are equivalent. Choose the proper set.

- You start with 3 Xbox360 games and each month you buy 3 new games.
- You start with 2 Xbox360 games and each month you buy 1 new games.



- $y = 1x + 2$
- $y = 3x + 3$

You start with 3 Xbox360 games and each month you buy 3 new games.



#12 Points possible: 1. Total attempts: 2

Select all of the following tables which could represent a linear function.

x	$h(x)$
5	21
10	41
20	81
25	101

x	$h(x)$
0	8
5	33
10	108
15	233

x	$f(x)$
0	-2
5	18
10	38
15	58

x	$g(x)$
0	8
5	-2
10	-12
15	-22