Linear Word Problems: Notes

Name: _*answer key*_

MATH 4 ALL

3 types of linear word problems:
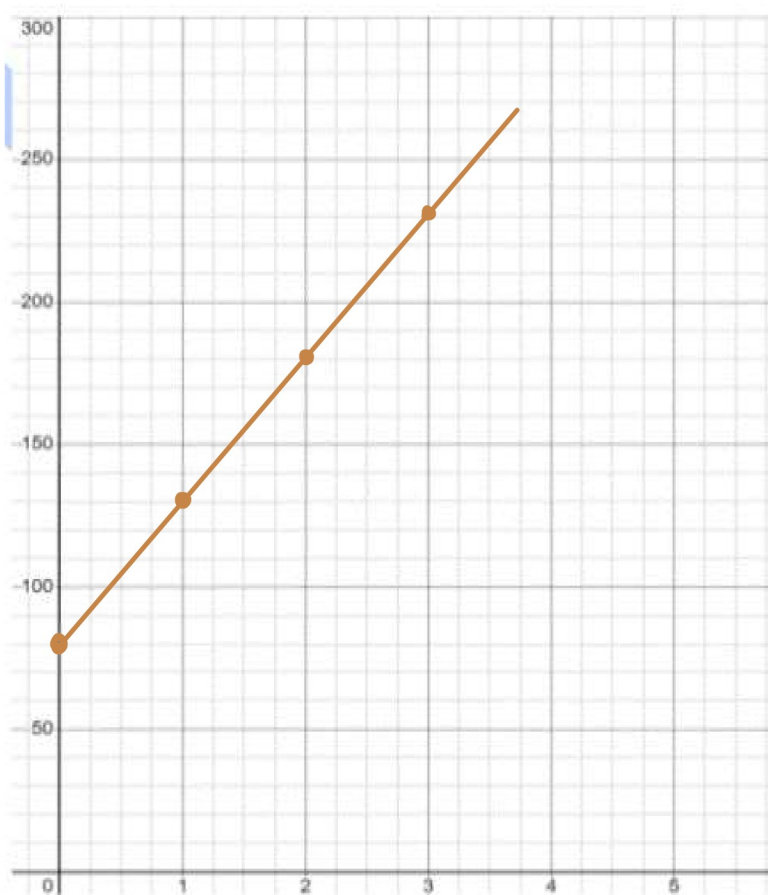
constant _*increase*_ / _*decrease*_

rate of _*change*_

*direct* _*variation*_

What is the equation that gives a worker's total bill if he charges $80 for the call plus $50 per hour?

initial rate + variable rate

_*$80*_ + _*$50·h*_

What is the rate of change in domestic coffee consumption between the beginning of 2015 and the beginning of 2020?

2 points: (_2015_ , _23.58_) (_2020_ , _26.7_)

$$\frac{26.7 - 23.58}{2020 - 2015} = \frac{3.12}{5} =$$

_.624_ million =

_624,000_ bags of coffee per year

Domestic consumption of coffee in the United States from 2013/14 to 2019/2020

(in million 60-kilogram bags)

Characteristic	Consumption in million 60-kilogram bags
2019/2020	26.7
2018/2019	27.16
2017/2018	25.56
2016/2017	25.5
2015/2016	25.1
2014/2015	23.58
2013/2014	23.81

Direct Variation: line with a *y*-intercept of __0__

$$y = \underline{k \cdot x}$$

How far you travel is a direct variation of the time that you drive. If I went 800 miles in 12 hours and 15 minutes...

What is *k*?   **65.3**

What does *k* represent?

the speed of the vehicle

$$d = kt$$
$$\underline{800} = k \cdot \underline{12.25}$$
$$k = \underline{65.3}$$

How long would it take this vehicle to travel 250 miles?

$$d = kt$$
$$d = \underline{65.3} \cdot t$$

$$250 = 65.3 \cdot t$$
$$t = 3.8 \text{ hrs}$$