

# Lines: Lesson 9

## Linear Word Problems: Worksheet 1

answers!

Name: \_\_\_\_\_

MATH  ALL

Give the equations of the lines that model:

- Someone who has \$150 in the bank and adds \$25 per month to it:

$$A = 150 + 25 \cdot m$$

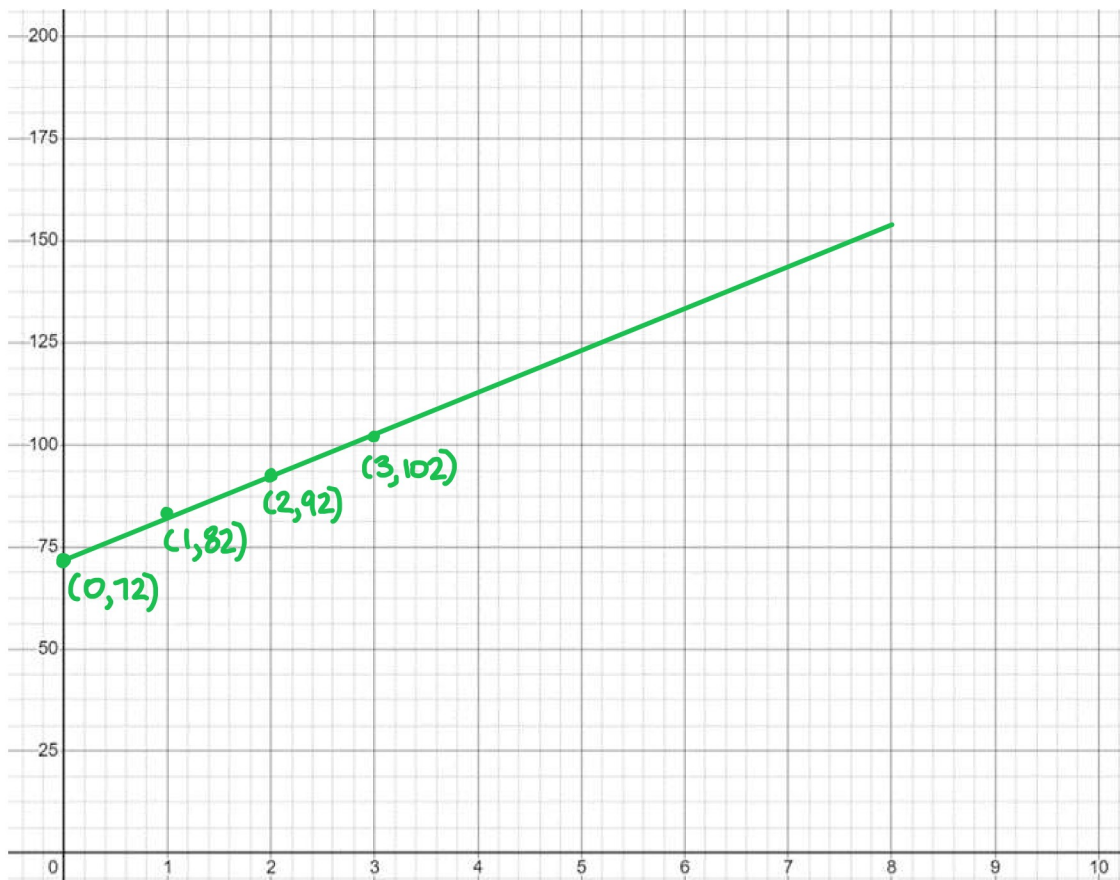
- A pool has 2600 gallons of water and it is emptying at a rate of 3 gallons per minute:

$$A = 2600 - 3 \cdot m$$

- A person read 72 pages of a book and reads 10 pages per day:

$$P = 72 - 10 \cdot d$$

Graph this one:



What is the rate of change of the number of Tesla vehicles delivered from 2019 to 2021?  
 (Data from statista.com)

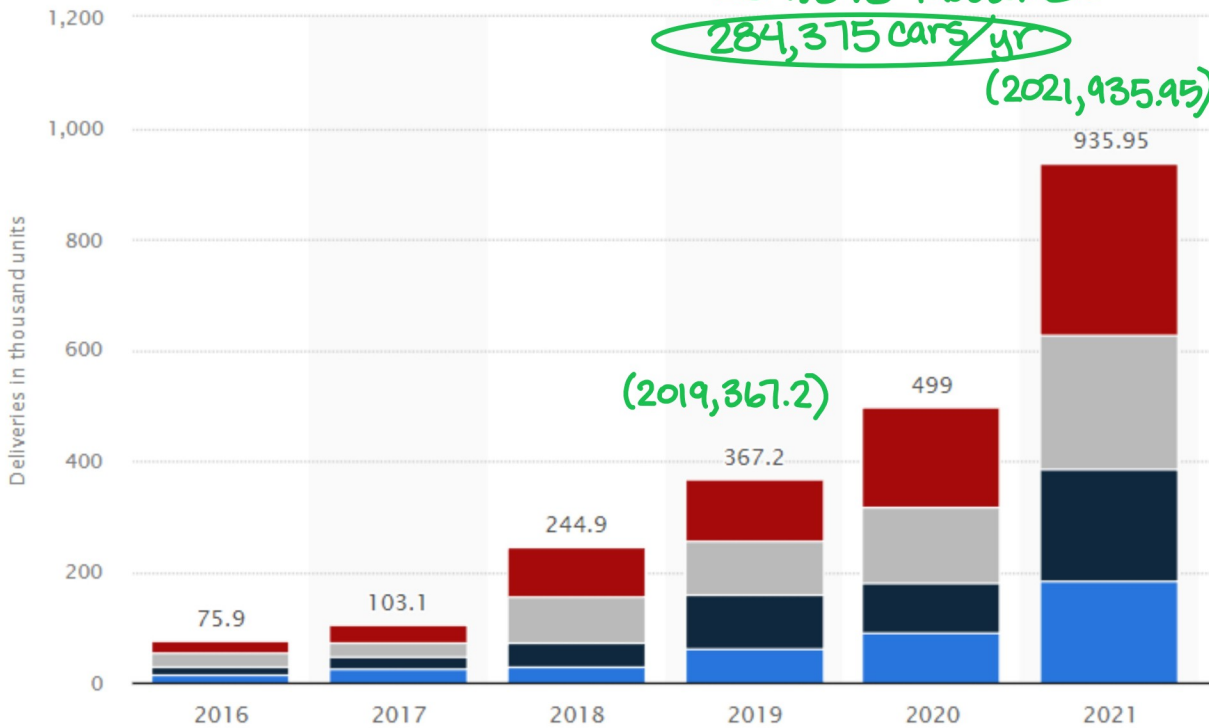
Notice that each amount is in thousands of cars.

$$\frac{935.95 - 367.2}{2021 - 2019} = \frac{568.75}{2} =$$

$$284.375 \text{ thousand} =$$

$$284,375 \text{ cars/yr}$$

(2021, 935.95)



Year	Population
2020	331,002,651
2019	329,064,917
2018	327,096,265
2017	325,084,756
2016	323,015,995
2015	320,878,310
2010	309,011,475
2005	294,993,511
2000	281,710,909

What is the rate of change of the United States population between 2000 and 2020? (Data from worldometers.com)

$$(2000, 281,710,909) \quad (2020, 331,002,651)$$

$$\frac{331,002,651 - 281,710,909}{2020 - 2000} = \frac{49,291,742}{20} =$$

$$2,464,587 \text{ people/yr}$$

How much you spend on oats is directly related to how many pounds you buy. If I spent \$8.60 and bought 4 pounds...

$$A = k \cdot p \quad 8.60 = k \cdot 4$$

What is  $k$ ? 2.15

$$k = 2.15$$

What does  $k$  represent? how much oats are per pound

If I bought 7.3 pounds, how much would I pay?

$$A = 2.15 \cdot 7.3 = \text{\$15.70}$$

(15.695)