

4.1

# Representing Equations (relationships)

LINEAR

From words to equations to tables to graphs  
 → OR ←

If its linear it is :  $y = mx + b$

rate of change will be zero  
 (not always just for today)

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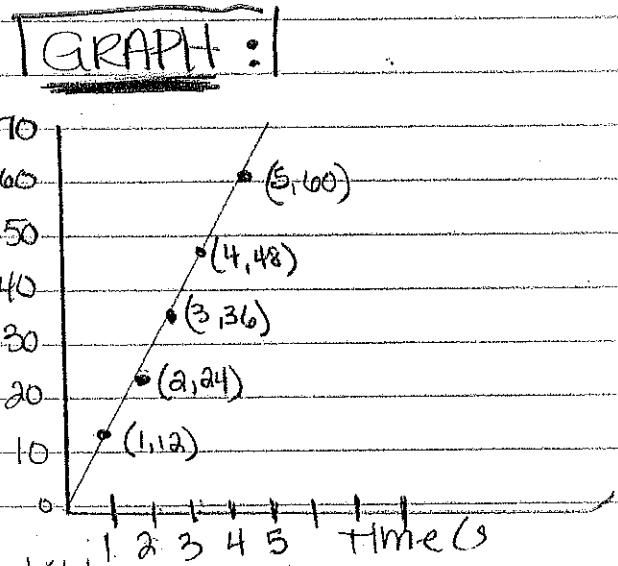
Rate of change = per = each

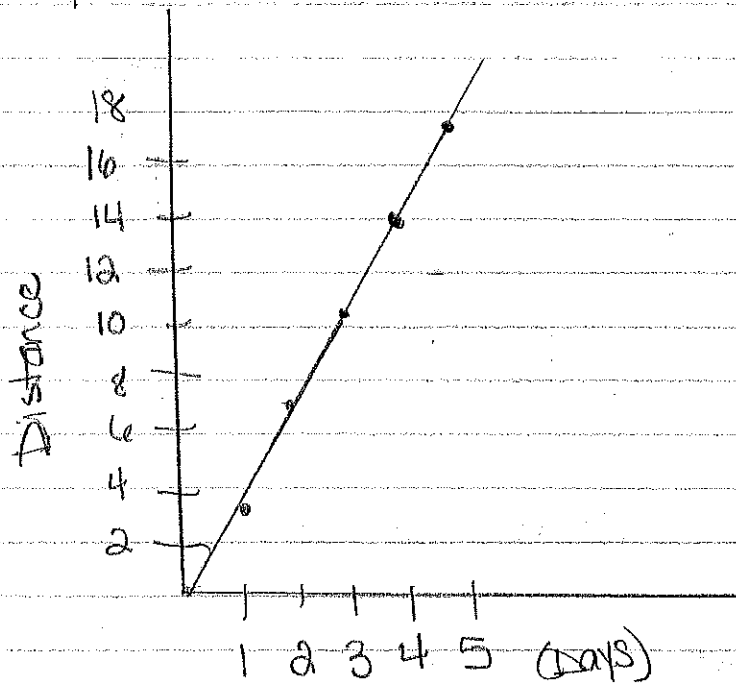
**WORDS:** Distance is equal to 12 miles per second times the number of seconds.

**EQUATION:**  $d = 12s$  ..... same as  $y = mx$

**TABLE:**

Time Seconds	Distance miles
1	12
2	24
3	36
4	48
5	60





(1, 3.5)

(2, 7)

(3, 10.5)

(4, 14)

(5, 17.5)

Find slope (use easy #'s)

(2, 7) (4, 14)

$$\frac{14-7}{4-2} = \frac{7}{2} \text{ or } 3.5$$

$$y = 3.5x$$

How far will he run in 2 weeks?

$$y = 3.5(14) \rightarrow = 49 \text{ days}$$

$$y = 49$$

1 mile = 5,280 feet

$$y = 5280x$$

write an equation

Find the # of feet in 7 miles  $y = 5280(7)$

$$= 36,960$$