

Applied Technical Math 10/5

Warm Up IXL

8th Grade

Z.8

1.2 Finding Linear Equations

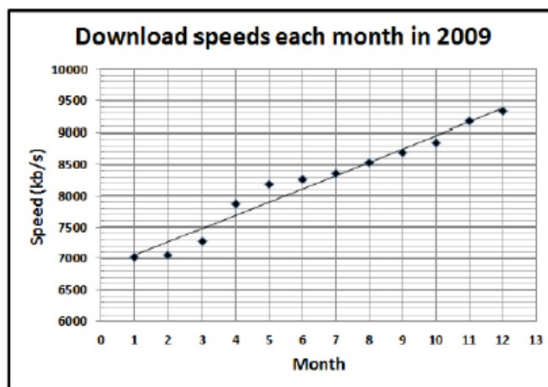
I can find the slope and the equation of a line given a table and graph

Download speeds for data are increasing with technological advances. The speeds are recorded in the table for each month in 2009.

Round slopes and y-intercepts to 2 decimal places

- Find the equation of the line passing through months 2 & 4.
- Find the equation of the line passing through months 5 & 7.
- Find the equation of the line through two representative points from the trend line.
- Comment on the similarities and differences in the equations you found in a – c.

Month	Speed (Kb/s)
1	7028
2	7056
3	7278
4	7866
5	8188
6	8265
7	8355
8	8529
9	8694
10	8844
11	9183
12	9332



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Find the equation of the line passing through months 2 & 4.

(2,7056)(4,7866)

$$m = \frac{7056 - 7866}{2 - 4}$$

$$m = 405$$

Substitute slope value into the equation.

$$y = mx + b$$

$$y = 405x + b$$

Select one of the points for x and y , then solve for b .

$$7056 = 405 \cdot 2 + b$$

$$b = 6246$$

Final equation: $y = 405x + 6246$



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* 2	7056
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) Find the equation of the line passing through months 5 & 7.

(5,8188)(7,8355)

$$m = \frac{8188 - 8355}{5 - 7}$$

$$m = 83.5$$

Substitute slope value into the equation.

$$y = mx + b$$

$$y = 83.5x + b$$

Select one of the points for x and y , then solve for b .

$$8188 = 83.5 \cdot 5 + b$$

$$b = 7770.5$$

Final equation: $y = 83.5x + 7770.5$

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7. Download speeds for data are increasing with technological advances. The speeds are recorded in the table below in 2009.

$$m = \frac{7028 - 8529}{1 - 8}$$

- c) Find the equation of the line through two points from the trend line.

$$m = 214.4285$$

$$m = 214.43$$

Substitute slope value into the equation.

$$y = mx + b$$

$$y = 214.43x + b$$

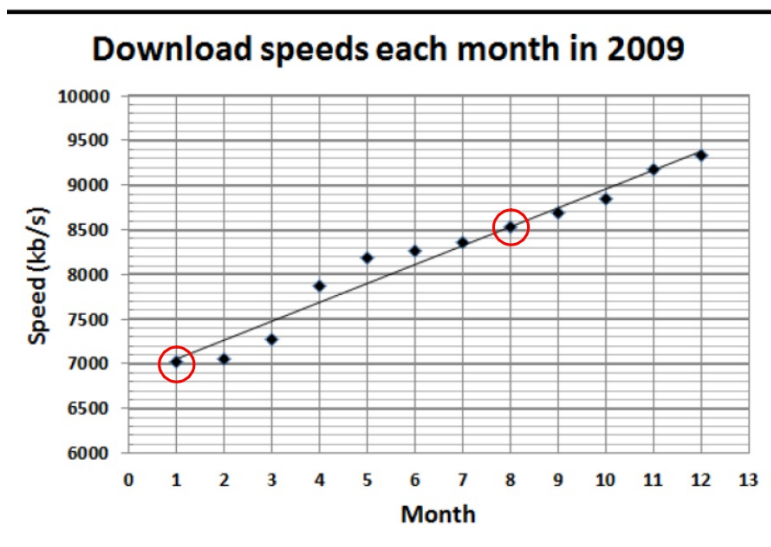
Select one of the points for x and y , then solve for b .

$$7028 = 214.43 \cdot 1 + b$$

$$b = 6813.5714$$

$$b = 6813.57$$

$$\text{Final equation: } y = 214.43x + 6813.57$$



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7. Download speeds for data are increasing with technological advances. The speeds are recorded in the table for each month in 2009. Round slopes and y-intercepts to 2 decimal places
- d) Comment on the similarities and differences in the equations you found in a – c.

	Equation a	Equation b	Equation c (most accurate)
	$y = 405x + 6246$	$y = 83.5x + 7770.5$	$y = 214.43x + 6813.57$
slope	405 (larger than c)	83.5 (smaller than c)	214.43
y-intercept	6246 (smaller than c)	7770.5 (larger than c)	6813.57

I can find the slope and the equation of a line given a table and graph

Hmwk Pg 25

#8-11

Quiz 1.2 Tomorrow