

Math 1 Unit 3 Lesson 1

Multiple Choice

Find the slope of the Linear Regression.

1.

x	$f(x)$
-1	2
0	0
2	-4
5	-10

- a. $k = -1.5$ b. $k = 2$ c. $k = -0.5$ d. $k = -2$

Write an equation of a line with the given slope and y-intercept.

2. $m = 1, b = 4$

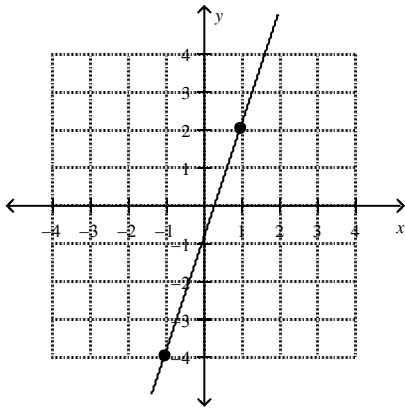
- a. $y = 4x + 1$ c. $y = -1x + 4$
b. $y = x - 4$ d. $y = x + 4$

3. $m = \frac{1}{4}, b = -\frac{3}{4}$

- a. $y = 4x - \frac{3}{4}$ c. $y = -\frac{3}{4}x + \frac{1}{4}$
b. $y = \frac{1}{4}x - \frac{3}{4}$ d. $y = \frac{1}{4}x + \frac{3}{4}$

Write the slope-intercept form of the equation for the line.

4.

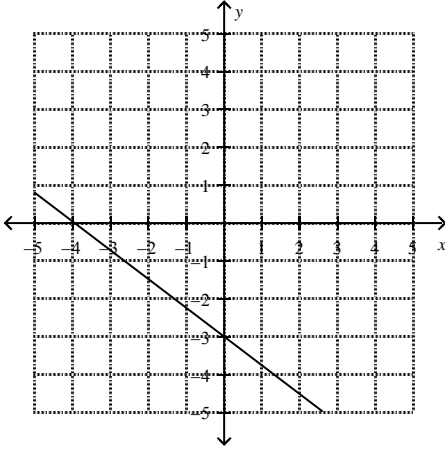


- a. $y = 3x - 1$ c. $y = \frac{1}{3}x + 1$
b. $y = -3x - 1$ d. $y = \frac{1}{3}x - 1$

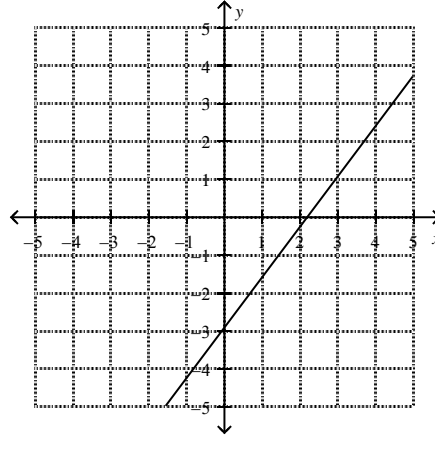
5. Use the slope and y-intercept to graph the equation.

$$y = \frac{3}{4}x - 3$$

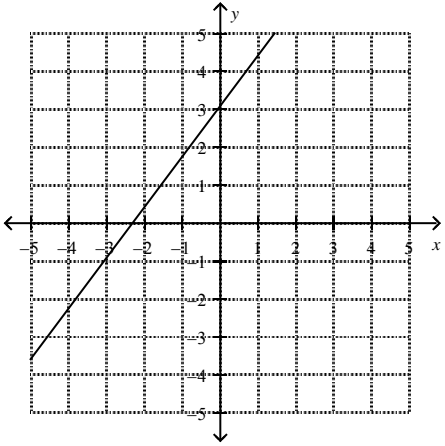
a.



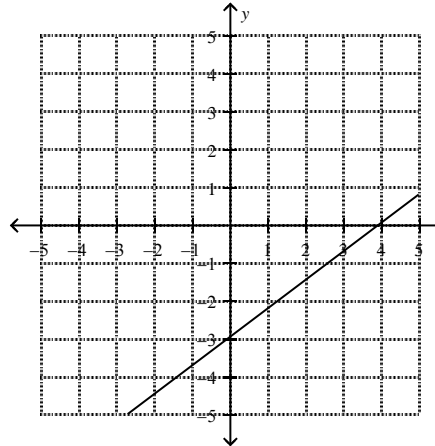
c.



b.

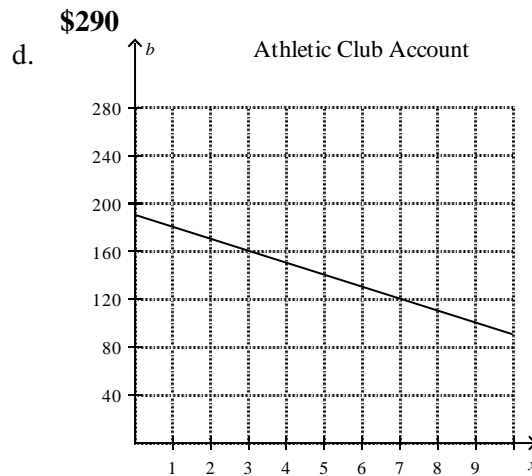
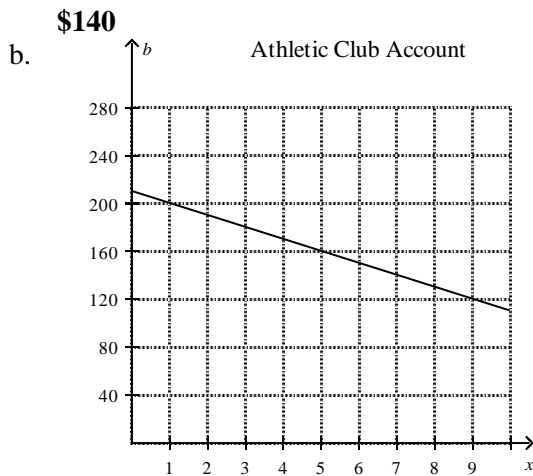
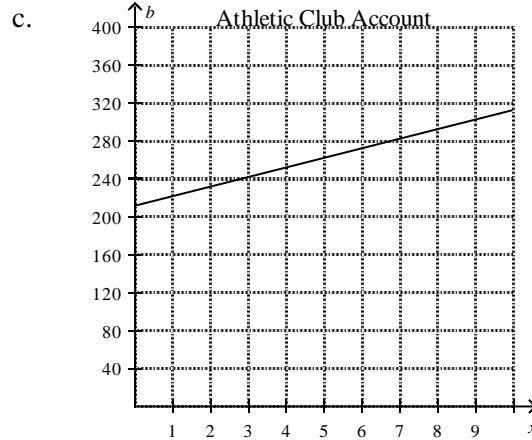
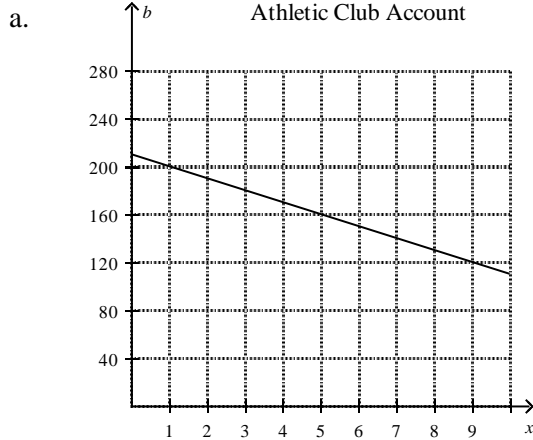


d.



6. Giselle pays \$210 in advance on her account at the athletic club. Each time she uses the club, \$10 is deducted from the account. The situation can be modeled by the equation $b = 210 - 10x$, where x is the number of visits and b is the total account balance.

- a. Graph the equation.
b. Find the account balance after 8 visits.



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7. A line passes through $(1, -5)$ and $(-3, 7)$.
a. Write an equation for the line in point-slope form.
b. Rewrite the equation in slope-intercept form.

a. $y = 3x + 8$

b. ; $y = \frac{1}{3}x + \frac{8}{3}$;

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c. ; $y = \frac{1}{3}x + \frac{16}{3}$

d. $y = -3x - 2$

Is the relationship shown by the data linear? If so, model the data with an equation.

8.

x	y
-9	-2
-5	-7
-1	-12
3	-17

- The relationship is linear; $y = -5/4x + 53/4$
- The relationship is linear; $y = 5/4x - 53/4$
- The relationship is not linear.
- The relationship is linear; $y = -5/4x - 53/4$

Use a graphing calculator to find the equation of the line of best fit for the data. Find the value of the correlation coefficient r .

9.

Average Speed (mi/h)	Time (hours)
8.5	2.5
7.5	3.75
6.5	4.5
6.0	5.0
5.5	5.5
5.0	6.25
4.0	6.75
3.5	8.75

- $y = 11.83x - 1.11$; $r = -0.9760964904$
- $y = -1.11x + 11.83$; $r = -0.9760964904$
- $y = 11.83x - 1.11$; $r = 0.9527643586$
- $y = -1.11x + 11.83$; $r = 0.9527643586$

10. Christine's Best Javelin Throws

Year	1997	1998	1999	2000	2001	2002	2003	2004
Distance (meters)	31.9	31.55	34.45	31.6	34	36.15	35.05	38.7

(Use $x = 0$ for 1997.)

- $y = 31.15x + 0.864$; $r = 0.7139281244$
- $y = -0.864x + 31.15$; $r = 0.7139281244$
- $y = 31.15x + 0.864$; $r = 0.8449426752$
- $y = 0.864x + 31.15$; $r = 0.8449426752$

- ___ 11. The table shows the amount of time a student spends practicing each week and her typing speed.

Practice (hours)	1	2	3	4	5
Typing Speed (words per minute)	21	26	35	37	40

- a. Use a graphing calculator to find the equation of the line of best fit.
b. Use your equation to predict the student's typing speed if she spends 8 hours practicing each week.
- $y = 5.1x + 17$; about 47 words per minute
 - $y = 17.1x + 4.9$; about 142 words per minute
 - $y = 4.9x + 17.1$; about 56 words per minute
 - $y = 4.6x + 16$; about 53 words per minute

Find the slope of the line that passes through the pair of points.

- ___ 12. (1, 7), (10, 1)
a. $\frac{3}{2}$ b. $-\frac{2}{3}$ c. $\frac{3}{-2}$ d. $\frac{2}{3}$
- ___ 13. (-5.5, 6.1), (-2.5, 3.1)
a. -1 b. 1 c. 2 d. -2

Find the slope and y-intercept of the line.

- ___ 14. $y = \frac{4}{3}x - 3$
a. $3; \frac{4}{3}$ b. $-\frac{3}{4}; \frac{4}{3}$ c. $\frac{3}{4}; 3$ d. $\frac{4}{3}; -3$
- ___ 15. $14x + 4y = 24$
a. $-\frac{2}{7}; 6$ c. $-\frac{7}{2}; 6$
b. $\frac{7}{-2}; 6$ d. $\frac{7}{2}; -6$