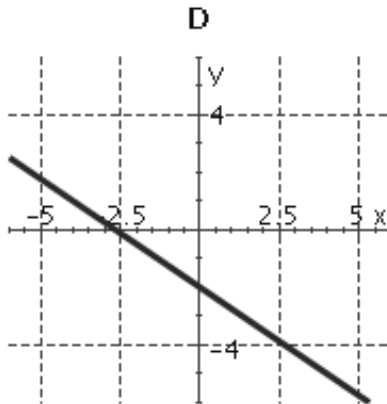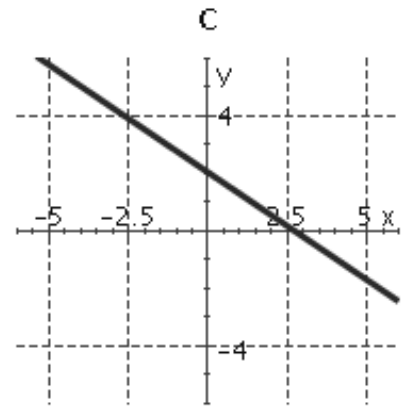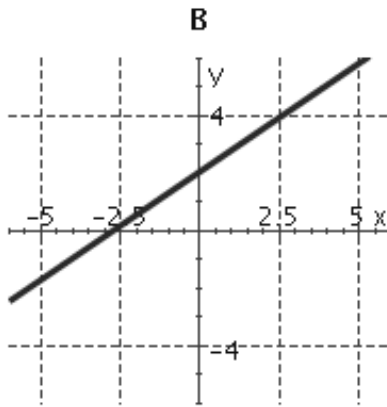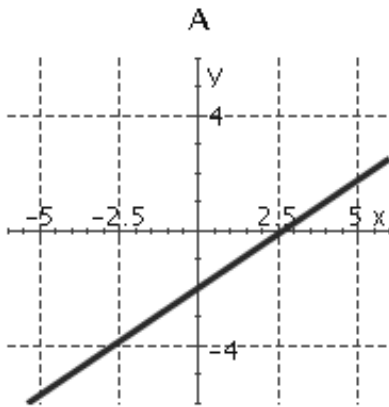Name_____ Class_____ Date_____

1 Write the following equation in slope-intercept form. Specify the slope of the line and its *y*-intercept.

$$y - 39 = 0$$

2 Write an equation for the line in slope-intercept form if the line passes through the point $(7, -2)$ and has a slope $m = -4$.

3 Choose the correct graph for the given equation.

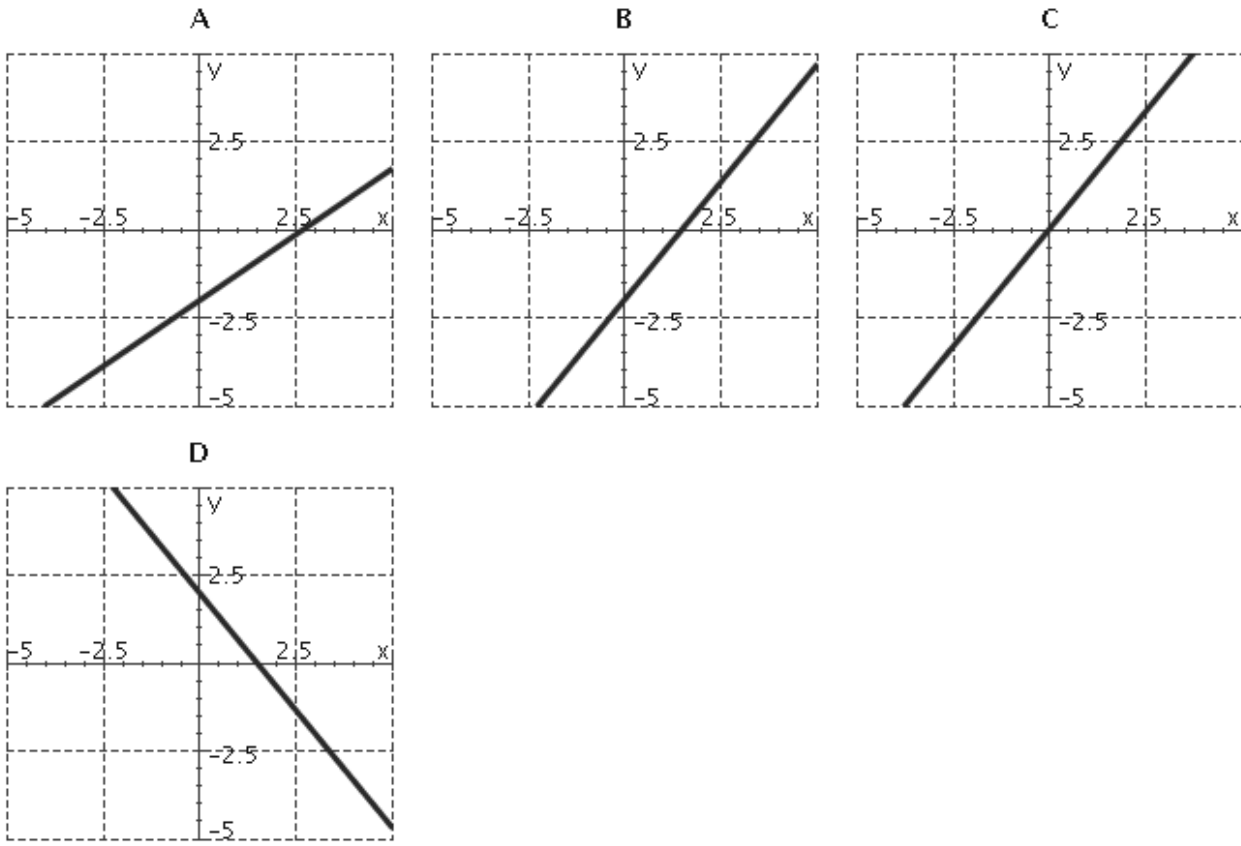$$y = -\frac{3}{4}x - 2$$

A

B

C

D

4 Using the equation below, find the slope of the line and the coordinates of one point on the line. (No calculation is necessary! Find the point which is simplest to discover. Its coordinates make both sides of the equation equal to zero).

$$3(y - 3) = 2(x + 6)$$

5 Graph the following line by hand.

$$y = \frac{4}{3}x - 2$$

Choose the correct graph.

A

B

C

D

6 Find an equation for the line that passes through $(1, - 4)$ and has slope $- \dfrac{7}{4}$.

Write your answer as an equation in slope-intercept form.

7 Write the equation in slope-intercept form.State the slope and y-intercept of the line.

$$\frac{9}{8} x - \frac{2}{3} y = 7$$

First, write the equation in slope-intercept form.

What is the slope of the line?

What is the y-intercept?

8 Write the equation in slope-intercept form. State the slope and y-intercept of the line.

$$y - 36 = 0$$

Complete the table, where m is the slope and b is the y-intercept of the line.

slope– intercept form	
m	

9 Find an equation for the graph shown. The graph shows the amount of emergency water, W, remaining (in liters) in a southern Californian household t days after an earthquake.
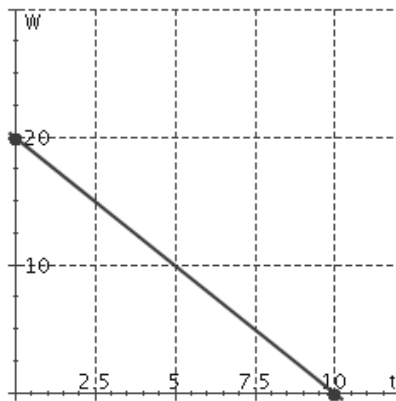
a. $W = -2t + 20$ c. $W = 4t + 80$ e. $W = 2t + 20$

b. $W = 36t - 20$ d. $W = -2t - 20$

10 Find the slope of the line.

$$y + 2 = 9(x - 3)$$

_____

11 It cost a bicycle company $8000 to make 50 touring bikes in its first month of operation and $15000 to make 120 bikes during its second month. Express the company's monthly production cost, C, in terms of the number x of bikes it makes.

Make a table showing the coordinates of two data points for the model.

a.
x	50	8000
C	120	15000

b.
x	120	15000
C	50	8000

c.
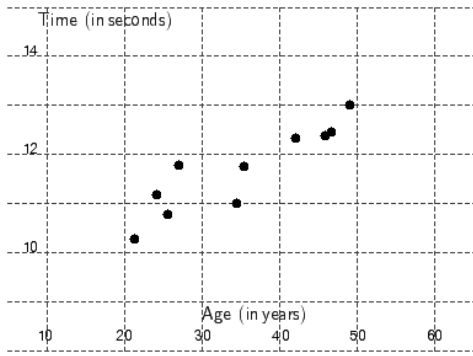| x	8000	15000
C	50	120

d.
x	50	120
C	8000	15000

12 The scatterplot in figure below shows the ages of ten army drill sergeants and the time it took each to run 100 meters, in seconds.

How old was the drill sergeant whose hundred-meter time was 12.8 seconds?

(A) 45
(B) 50
(C) 57
(D) 58

13 Find the equation of the least squares regression line for the following data.

$$(\ 10\,,12\ )\,,(\ 12\,,14\ )\,,(\ 12\,,15\ )\,,(\ 13\,,15\ )\,,(\ 14\,,19\ )$$

14 Emily was 86 centimeters tall at age 32 months and 91 centimeters tall at age 42 months.

Use linear interpolation from the equation $y \ = \ \dfrac{x}{2} \ + \ 70$ to estimate Emily's height when she was 36 months old. Then, extrapolate to predict her height at age 44 months.

15 The scatterplot on the graph below shows the ages of ten army drill sergeants and the time it took each to run 100 meters, in seconds.

What was the hundred-meter time for the 35-year-old drill sergeant? Please round the result to the nearest whole number.
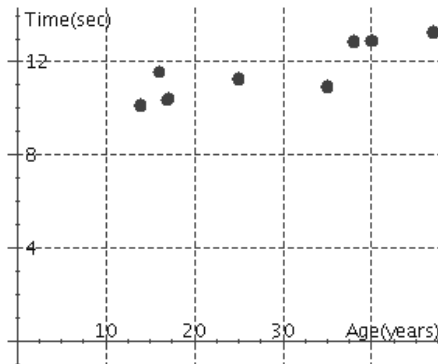
t = _____ seconds

16 The European sedge warbler has an intricate song consisting of a long stream of trills, whistles and buzzes. Males with the most elaborate songs are the first to acquire mates in the spring. The following data show the number of different songs sung by several male warblers and the day on which they acquired mates, where Day 1 corresponds to April 20. (Pairing can be dated because the male stops singing when it pairs.)

Number of songs	Pairing day
40	20
36	24

4

| 34	25
42	21
38	24
38	27
32	31
28	35
23	40
27	42

A regression line for the data is $y = -0.75x + 56$, where x represents pairing days and y represents the number of songs. After how many days can a sedge warbler that knows 10 songs expect to find a mate?

  a. 61 days   b. 122 days   c. 46 days   d. 66 days   e. 88 days

17 The scatterplot on the graph below shows weights (in pounds) and heights (in inches) of a team of distance runners.

The equation of the best fit line is $y = 2.5x - 42.6$.

Use this equation to predict the weight of a runner who is 74 inches tall.
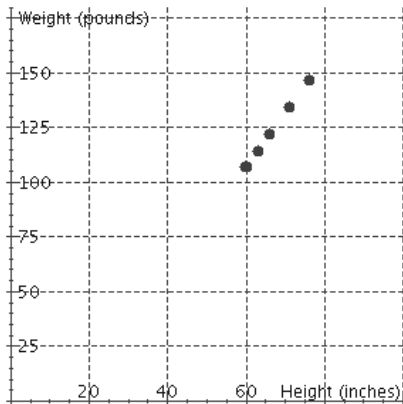
_____ pounds

ANSWER KEY

Sample questions(1.5- 1.6)

1. y=39,0,39

2. y=– 4x+26

3. D

4. $\dfrac{2}{3}$,(– 6,3)

5. B

6. y=– $\dfrac{7}{4}$ ·x– $\dfrac{9}{4}$

7. $y=\left(\dfrac{27}{16}\right)\cdot x - \dfrac{21}{2}$; $\dfrac{27}{16}$; – $\dfrac{21}{2}$

8.

slope– intercept form	y=36
m	0
b	36

9. a

10. m=9

11. d

12. B

13. y=1.59x– 4.41

14. y=88,y=92

15. 11

16. a

17. 142.4

ANSWER KEY - Page 1