Math 1 IA2 Review Part 2

Name _____

1. What is the equation of the line that is perpendicular to the line $y = -\frac{1}{2}(x-18)$ and intersects the y-axis at $(0, -1)$?

   A. $y = -\frac{1}{2}x - 1$ C. $y = 2x - 1$

   B. $y = \frac{1}{2}x - 1$ D. $y = -2x - 1$

2. Line l is perpendicular to the y-axis. If the line contains point (0, –9), what is the equation of Line l?

   A. $x = 0$ C. $x = -9$

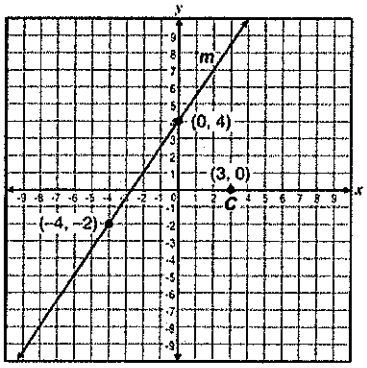
   B. $y = 0$ D. $y = -9$

3. What is the slope of a line that is parallel to the graph of $4x + 1y = 4$?

   A. 4 C.

   B. D. -4

4. The graph of Line *m* passes through the points $(0, 4)$ and $(-4, -2)$, as shown on the coordinate plane below.

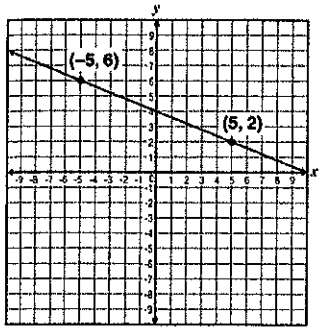



   Which coordinate pair describes a point on a line that is parallel to Line m and passes through Point C?

   A. $(1, -3)$ C. $(6, 2)$

   B. $(-3, 1)$ D. $(2, 6)$

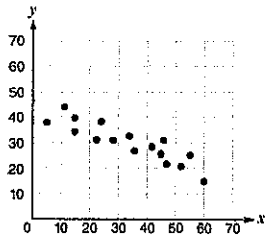
5. Which equation represents a line that is perpendicular to the line shown in the graph?




   A. $y = \frac{5}{2}x - 3$ C. $y = -\frac{1}{2}x - 4$

   B. $y = \frac{1}{2}x + 4$ D. $y = -\frac{5}{2}x + 1$

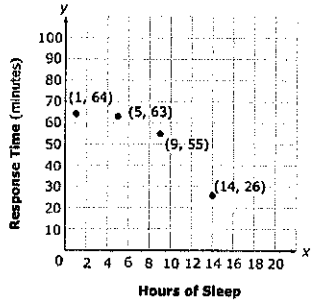
6. Which function best fits the data in this scatter plot?



   A. $y = -\frac{1}{2}x + 45$ C. $y = -\frac{1}{4}x + 45$

   B. $y = -2x + 45$ D. $y = -4x + 45$

7. The scatterplot below shows the number of hours of sleep that 4 teenagers got before taking the SAT and the average response time in seconds it took for those teens to answer each question.




   Using the equation of the line of best fit, how many hours of sleep would you expect a teen to get to have a response time of 46 seconds?

   A. 7.25 hours C. 13 hours

   B. 9.31 hours D. 60.76 hours

8. Janine tested microwave ovens with different power levels to determine how long it would take each oven to bring two cups of room-temperature water to a boil. She recorded the time for each of four ovens in the table below.

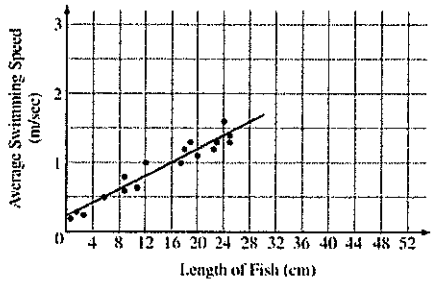
Time to Boil Water

| Microwave Power (watts) | Time (seconds) |
|---|---|
| 700 | 85 |
| 850 | 78 |
| 1000 | 70 |
| 1100 | 65 |

Based on the relationship shown in the table, which is the best prediction of the amount of time it would take to boil two cups of room-temperature water in a 1350-watt microwave oven?

A. 49 seconds
C. 58 seconds
B. 53 seconds
D. 61 seconds

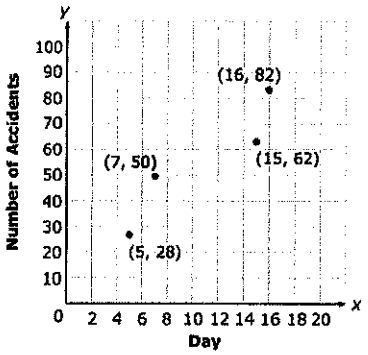
9. The average swimming speed, in meters per second, for one type of fish is related to the length of the fish, in centimeters, as shown in the scatterplot below.




Based on the line of best fit shown on the graph, what would be the average swimming speed, in meters per second, for a fish 50 centimeters long?

A. Between 1.5 and 2
C. Between 2.5 and 3
B. Between 2 and 2.5
D. Greater than 3

10. The scatterplot below shows the number of days the temperature was below 20° in 4 different cities and the number of weather-related car accidents in those cities during the month of January.




Which equation best fits the data?

A. $y = 2.13x + 14.7$
C. $y = 3.73x + 15.4$
B. $y = 2.73x + 12.55$
D. $y = 4.38x + 10.4$

11. A computer repair business charges an initial fee of $35 and an additional $45 per hour to make the repair. The function $C = 45t + 35$ represents the cost, C, of a job requiring t hours of repair work. What does the slope of function C represent?

A. Cost of the repair
C. Time required for the repair
B. Initial fee for the repair
D. Hourly charge for the repair

12. The table below shows the time in minutes and the distance a person ran on different days.

| **Time** (minutes) | 50 | 89 | 96 | 114 |
|---|---|---|---|---|
| **Distance** (miles) | 6.5 | 11 | 12.25 | 14.5 |

What does the rate of change for this data represent?

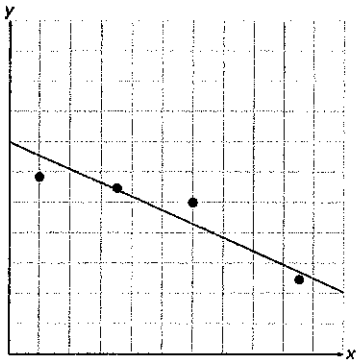
A. An average increase of 0.12 miles in distance for every minute longer a person runs

B. An average decrease of 0.12 miles in distance for every minute longer a person runs

C. An average increase of 0.18 miles in distance for every minute longer a person runs

D. An average decrease of 0.18 miles in distance for every minute longer a person runs

13. A scatterplot and line of best fit are shown below.



Which correlation coefficient best fits the scatter plot?

A. 0.9470 C. −0.3406

B. 0.3406 D. −0.9470

14. What is the solution to the system of equations below?

$$\begin{cases} x + 2y = -3 \\ 3x + 6y = 6 \end{cases}$$

A. (0, 15) C. infinitely many solutions

B. (1, 2) D. no solution

15. What is the x-coordinate of the point of intersection for the two lines below?

$$\begin{aligned} 2x + y &= -9 \\ 2x - 5y &= -3 \end{aligned}$$

A. 4 C. - 1

B. 1 D. −4

16. Look at the system of equations below.

$$5a + 3b = 11$$
$$-2a + 3 = b$$

What is the value of b for the solution to this system of equations?

A. - 7 C. 2

B. - 2 D. 7

17. What is the solution to the system of equations shown below?

$$y = 6x + 8$$
$$y = -4x - 2$$

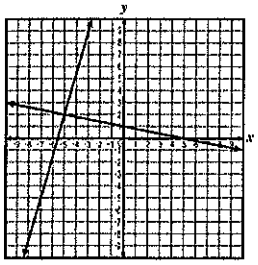
A. (2, 1) C. (1, 2)

B. (2, −1) D. (−1, 2)

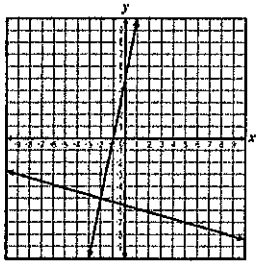
18. Which graph represents the solution to the following system of linear equations?

$$\begin{cases} 7x - 2y = -39 \\ x + 5y = 5 \end{cases}$$

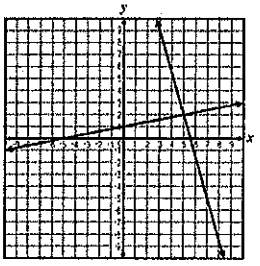
A.



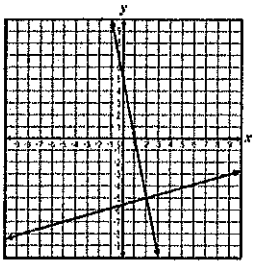
B.



C.



D.



19. These are equations for two distinct lines.

$$\begin{cases} y = -2x + 11 \\ y = x - 4 \end{cases}$$

What is the x-coordinate of the point of intersection of the two lines?

A. 5 C. - 1

B. 1 D. - 5