

Name _____

Algebra 1 B Teacher _____

Unit 4 Enrichment Assignment

DIRECTIONS: Answer each of the questions in this packet and **SHOW YOUR WORK**. You may use your notes, ask questions, work with another student, or go to the math lab to get help on this. You will be given a quiz based on these questions in which you will have to explain or interpret your answers. You may want to write notes on each problem as to what you did to get your answer.

Use this space to show work.

1. Alex earned scores of 60, 74, 82, 87, 87 and 94 on his first six algebra tests. What is the relationship between the measures of central tendency of these scores?

A. median < mean < mode B. mean < mode < median
C. mode < median < mean D. mean < median < mode

2. The number of entertainment websites in 1992 was 50. By 2008, there were 729 entertainment websites. Approximately what was the rate of change for the number of websites for this period of time?

A. 42 websites per year B. 24 websites per year
C. 679 websites per year D. 390 websites per year

3. If the point $(-1, 0)$ is on the line whose equation is $y = 2x + b$, what is the value of b ?

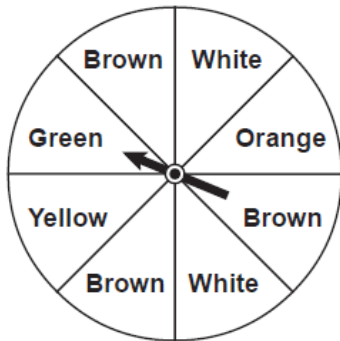
A. -1 B. 2
C. -2 D. 0

4. Which equation represents a line that is parallel to the line $y = -2x + 3$?

A. $4x + 2y = 5$ B. $2x + 4y = 1$
C. $2x - y = 9$ D. $x - 2y = 7$

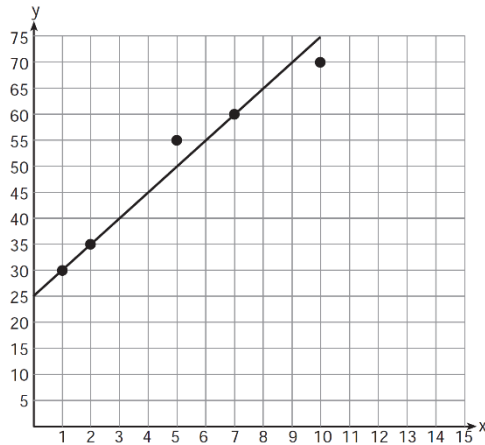
Use this space to show work.

5. Tyson is playing a game using a wheel divided into eight equal sections as show below. Each time the spinner lands on orange, he will win a prize.



If Tyson spins this wheel twice, what is the probability he will win a prize on both spins?

- A. $\frac{1}{16}$ B. $\frac{1}{64}$
C. $\frac{1}{56}$ D. $\frac{1}{4}$
6. A scatter plot was constructed on the graph below and a line of best fit was drawn.

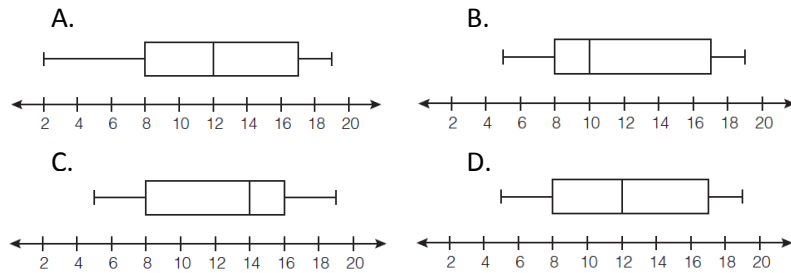


What is the equation of this line of best fit?

- A. $y = x + 5$ B. $y = x + 25$
C. $y = 5x + 5$ D. $y = 5x + 25$

Use this space to show work.

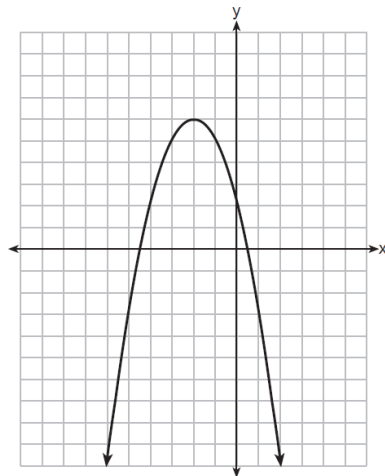
7. The data set 5, 6, 7, 8, 9, 9, 9, 10, 12, 14, 17, 17, 18, 19, 19 represent the number of hours spent on the Internet in a week by students in a mathematics class. Which box-and-whisker plot represents the data?



8. Jason's part-time job pays him \$155 per week. If he has already saved \$375, what is the minimum number of weeks he needs to work in order to have enough money to buy a dirt bike for \$900?

- A. 3
- B. 8
- C. 4
- D. 9

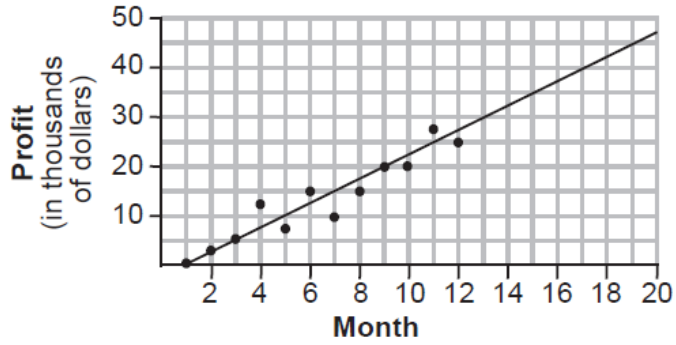
9. State the range of the graph below.



- A. $(-\infty, \infty)$ B. $[6, \infty)$
C. $(-\infty, 6]$ D. $(-\infty, -2]$

Use this space to show work.

10. The scatter plot below shows the profit, by month, for a new company for the first year of operations. Katelyn drew a line of best fit, as shown in the diagram.



Using this line, what is the best estimate for profit in the 24th month?

- | | |
|-------------|-------------|
| A. \$52,500 | B. \$55,000 |
| C. \$57,500 | D. \$60,000 |