

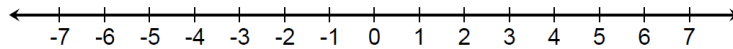
Please complete the following problems neatly on your own paper. Show all your work and circle your answers. Transfer your answers for each question to the answer sheet provided. You will turn in both the answer sheet and your work.

1. Solve the equation for x .

$$\text{Solve: } 3(2x - 7) = 4(2 + 3x)$$

$$x = \underline{\hspace{2cm}}$$

2. Solve: $3(x + 4) < 9 + 4x$ and show your solution on the number line



3. One day in New York City the temperature was $15^\circ\text{Celsius (C)}$. Using the formula $F = \frac{9}{5}C + 32$, Peter converts the temperature to degrees Fahrenheit (F). What was the temperature in Fahrenheit?

4. Write the equation of a line that passes through the point $(4, -2)$ and $(6, -3)$.

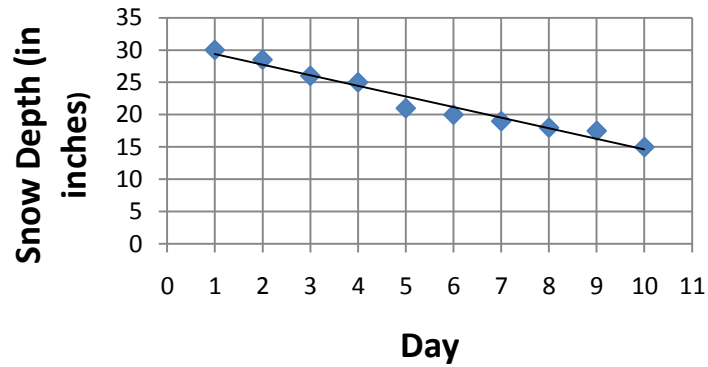
- A. $y = -\frac{1}{2}x$
- B. $y = -\frac{1}{2}x - 4$
- C. $y = 2x - 10$
- D. $y = \frac{1}{2}x - 4$

5. Write this linear equation in slope-intercept form.

$$4x - 8y = -24$$

Slope-intercept form _____

6. Mr. Jackson measures the snow in his front yard every day and graphs the depth of the snow. His graph is shown below.



What does the slope of the line that most closely fits his data mean in the context of this problem?

7. Consider the system of equations:
- $$2x + 4y = 8$$
- $$6y = -3x + 12$$

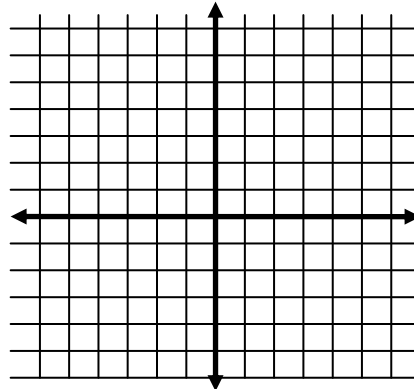
Which statement correctly describes the graphs of these equations?

- A. The lines are parallel.
- B. The lines coincide.
- C. The lines intersect at $(5, -\frac{1}{2})$.
- D. The lines intersect at $(-2, 3)$.

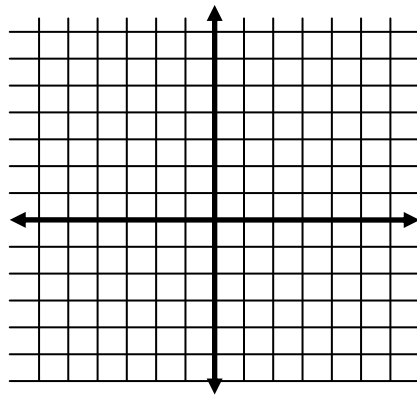
8. Solve the following system of inequalities: Show your solutions on the graph below.

$$y > -2$$

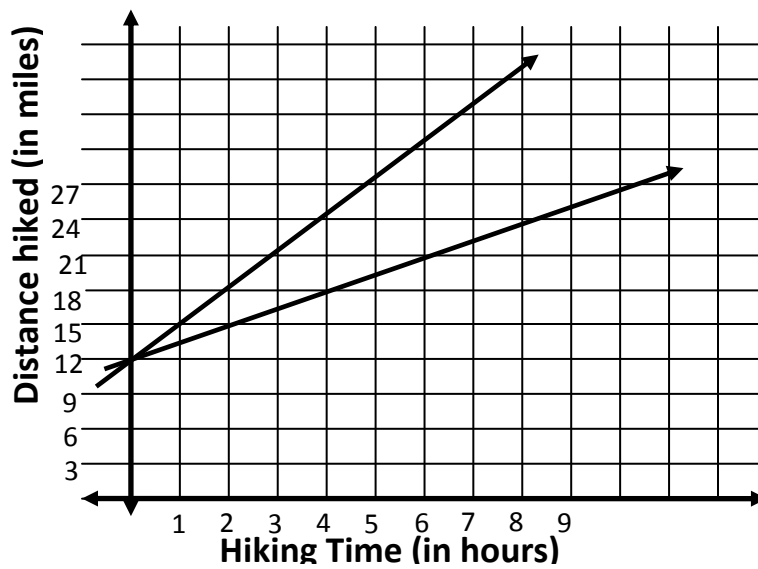
$$x + y < 3$$



9. Graph the function $f(x) = 2|x-4| - 3$ on the grid below.



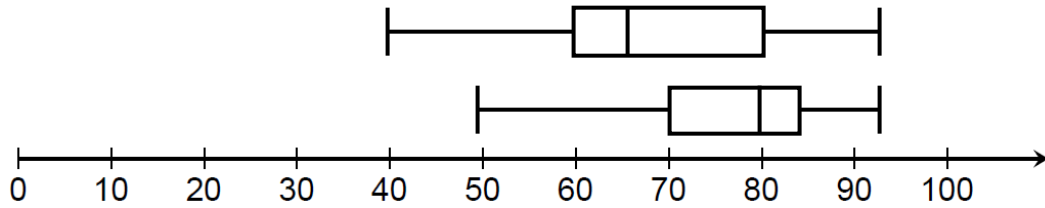
- 10 Jan and Megan were taking part in a hike for charity. The hike took place over three days. The graphs of their hikes are shown below.



Compare the slopes of the graphs of the two hikers. Explain the meaning of the slopes in the context of this situation.

Compare the y-intercepts of the graphs of the hikers. Explain the meaning of the y-intercepts in the context of this situation.

11. Mr. Hackman gave an Algebra test to two classes. Their results are summarized with the box and whisker plots below.



Write two statements comparing the scores of the two classes.

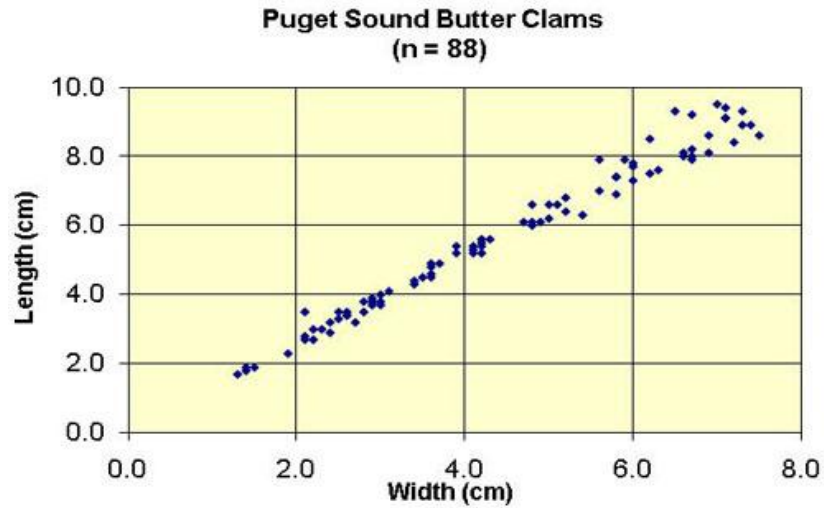
12. Barry recorded his golf scores for 10 rounds of golf. His scores are shown below.

78, 79, 82, 80, 63, 78, 78, 80, 80, 77

If Barry is playing in a tournament with players of similar ability, would he use the mean or the median of his scores to choose other players? Justify your answer.

13. Suppose in problem 12, that his golf handicap took 6 strokes off of every score. How would that change the mean, median and mode of his scores?
- A. The mean is decreased by 6 strokes.
 - B. The median is decreased by 6 strokes.
 - C. The mode is decreased by 6 strokes.
 - D. All three are decreased by 6 strokes.

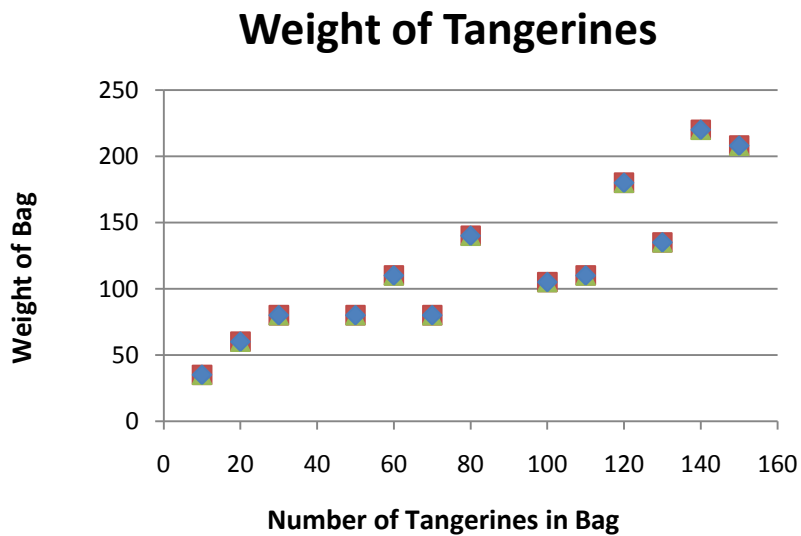
14.



In the table above are the lengths and widths of a certain kind of clam in the Puget Sound.

- Write the equation of a linear function that will model this data.
- What does the slope of the function mean in this context?
- What does the y-intercept of the function mean in this context?

15.



Several bags of tangerines were weighed. The comparison of the number of tangerines in the bag and the weight of the bag. Which of the following statements about the data is true?

- A. A weak positive correlation
- B. A weak negative correlation
- C. A strong positive correlation
- D. A strong negative correlation

16. The sum of ten even numbers is 1210. What are the numbers?