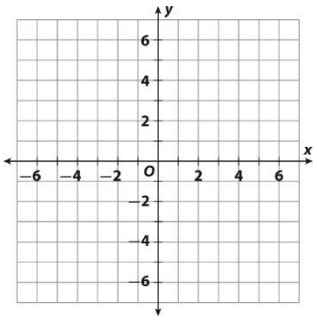
Alg 1 -Third Quarter EXAM Review Name_____



1. Graph the linear function. $f(x)=\frac{5}{6}x-1$

2. An online ticket seller charges $44 for each ticket to a concert, plus a handling fee of $12 per order, no matter how many tickets are purchased.

a) Write a function to represent the total cost for *t* tickets. _____

b) What does the slope of this linear function represent? _____

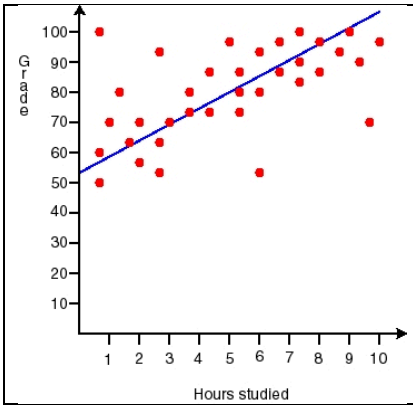
c) What does the y-intercept of this linear function represent? _____

3. A tank can hold 30,000 gallons of water and 500 gallons of water are used each day.

a) Write a function to represent the amount of water left in the tank after *d* days.
_____

b) What does the slope of this linear function represent? _____

c) What does the y-intercept of this linear function represent? _____



4. Circle the correlation descriptors:
positive or negative strong or weak

5. Estimate the correlation coefficient.
_____

6. If the line of best fit is $y = 5.1x + 52.32$, predict the grade after studying 3.5 hours.
_____

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Two students surveyed 50 students, each asking a different question. The two-way frequency tables show their findings. Complete each table.

7. Alia's Survey

	Texts Received Daily, on Average			
Gender	**0**	**1–20**	**More than 20**	**Total**
Boy	2	10		
Girl	1	7		25
Total				

8. Zach's survey

	Favorite Potato			
Gender	**Baked**	**French Fries**	**Mashed**	**Total**
Boy		10		26
Girl			12	
Total	8	18		

Use the completed tables to solve.

9. Did Alia and Zach survey the same number of girls as boys? _____

10. Did each student collect categorical or numerical data? _____

11. What percent of the students in the survey named baked potatoes as their favorite? _____

12. What percent of the boys chose French fries as their favorite? _____

13. What percent of the students surveyed received more than 20 texts? _____

The table below shows a major league baseball player's season home run totals for the first 14 years of his career. Use the data to answer questions 14 - 18.

Season	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Home Runs	18	22	21	28	30	29	32	40	33	34	28	29	22	20

14. Find the mean and median

_____

15. Find the range and interquartile range.

_____

16. Create a dot plot.

17. Create a histogram.

18. Create a box plot.

-

19.Factor:

a) $12xy^2 - 3y$ b) $4x^2 - 9$ c) $5x^2 - 8x - 4$ d) $4x^3 - 6x^2 - 6x + 9$

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20. Solve (at least one by factoring and at least one by quadratic formula).

a) $0 = x^2 + 2x - 48$ b) $2x^2 - 5x = 3$ c) $3x^2 - x + 5 = 1$

21. The height in meters of a baseball *t* seconds after it is hit straight up in the air with a velocity of 45 m/s is given by $h = -9.8t^2 + 45t + 1$.

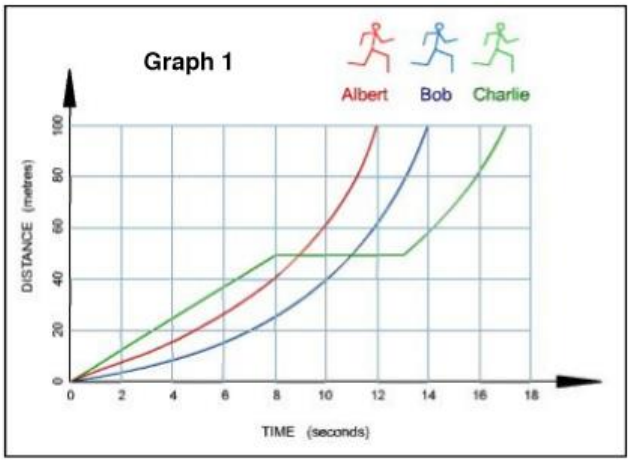
a) What does each of the following represent in the function?
-9.8 _____ 45 _____ 1 _____

b) What is the maximum height of the ball?

c) How long is the ball in the air?

22.

Directions: Answer the following questions as they apply to the Motions graphs and diagrams.
Graph 1: Questions 1-7



1. What does the slope of each line on the graph tell you?

2. Which runner completed the 100m race in the least amount of time? What was his time?

3. Which runner started out the fastest?

4. What was Charlie doing between 8 seconds and 10.5 seconds?

5. What does a straight line on this graph tell you? A curved line?

6. At what distance and time did Albert overtake Bob?

23. **Rewrite each of the following:** a) $8^{\frac{2}{3}}$ b) $\sqrt[4]{x^2y^{12}z}$