Line of Best Fit Practice Name:_____

Reflection and Self-Assessment

Part 1: Circle the statement that best describes how you completed the practice:

- I answered all questions without using the online solutions. I checked my answers against the key at the back of the practice and was able to determine my mistakes and correct them without referring to the online solutions.

- I answered most questions correctly without using the online solutions. I used the online solutions to help me with some questions and was able, with help from the online solutions, to understand every question and answer them correctly.

- I used the online solutions to help me with most of the questions. I was able, with help from the online solutions, to understand each question and answer them correctly.

- Even using the online solutions, I was not able to fully understand the solution to some problems. The questions I had trouble with were:

  _____

- I did not attempt all the questions on the practice.

Part 2: Circle the statement that best describes your confidence in answering questions of this type in the future.

- I am confident I can answer nearly any question of this type correctly without using notes or other assistance.

- I am confident I can answer **MOST** questions of this type correctly without using notes or other assistance.

- I am **NOT** confident I can answer most questions of this type correctly without using notes or other assistance.

Line of Best Fit Practice

Name:_____

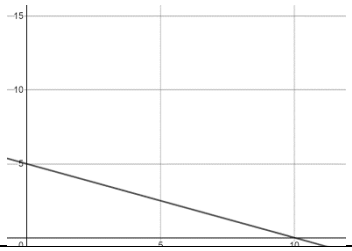
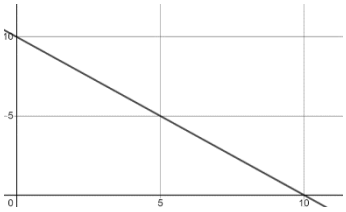
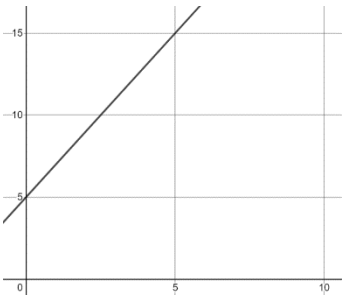
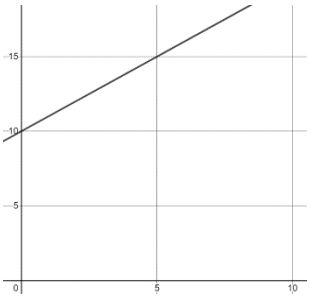
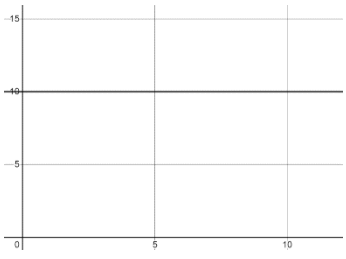
1. Roughly sketch
    a. A line with positive slope

    b. A line with negative slope

    c. A line with 0 slope

Line of Best Fit Practice Name:_____

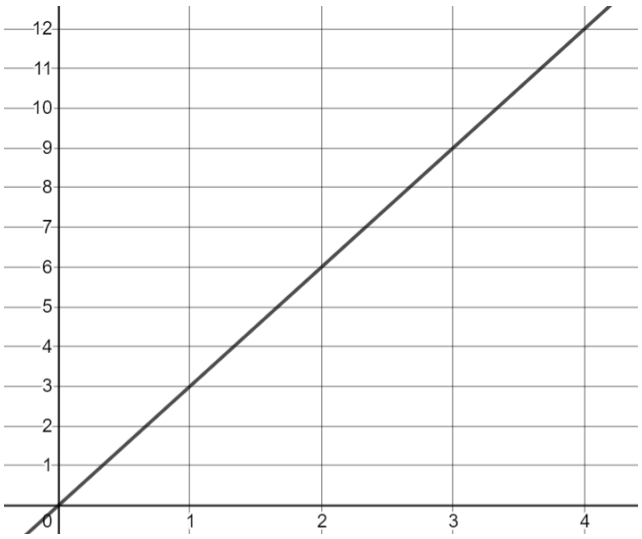
2. Match

a. A line with positive slope and y intercept of 5. _____	A: 
b. A line with negative slope and y intercept of 5. _____	B: 
c. A line with positive slope and y intercept of 10. _____	C: 
d. A line with zero slope and y intercept of 10. _____	D: 
f. A line with negative slope and y intercept of 10. _____	E: 

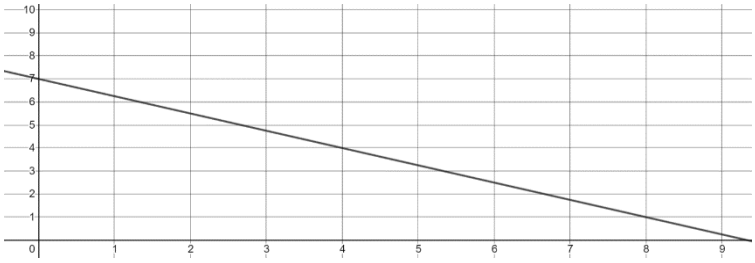
Line of Best Fit Practice Name:_____

3. Determine the slope of each of the following lines (remember slope$= \frac{rise}{run}$), write slope as a fraction or as a whole number.

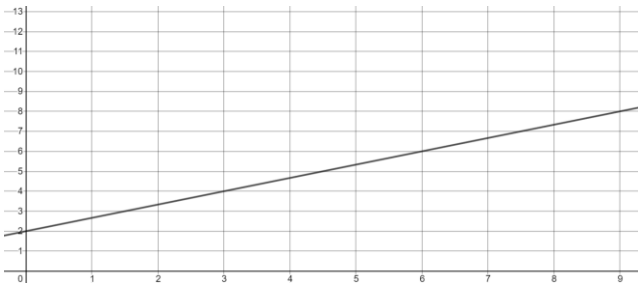
a.



b.



c.

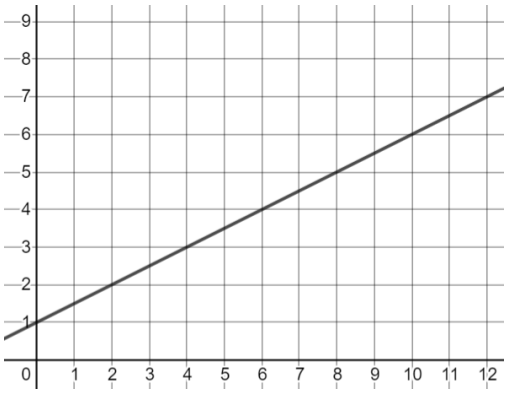


Line of Best Fit Practice Name:_____

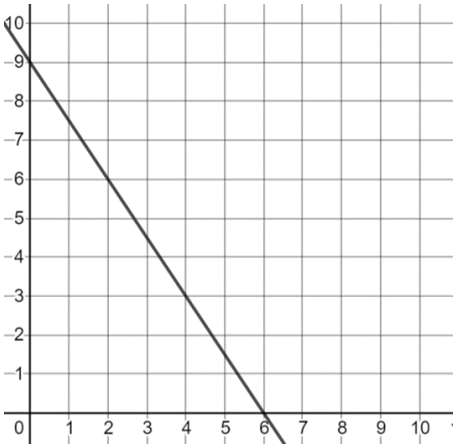
4. Determine the equation for each of the following lines in the form $y = mx + b$. Remember the m parameter is the slope and the b parameter is the $y-$ intercept. Write slope as a decimal rounded to 2 sig figs.

   *** NOTE that the way the graphs are cropped the grid lines may the y-values look like they have negatives in front of them, all the y-values are positive.

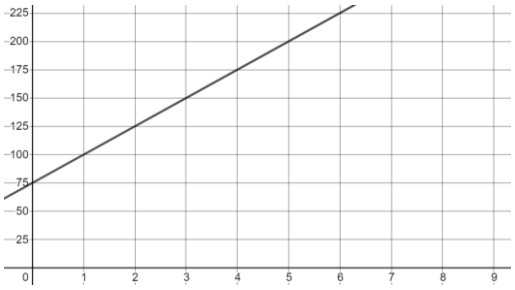
   a.



   b.



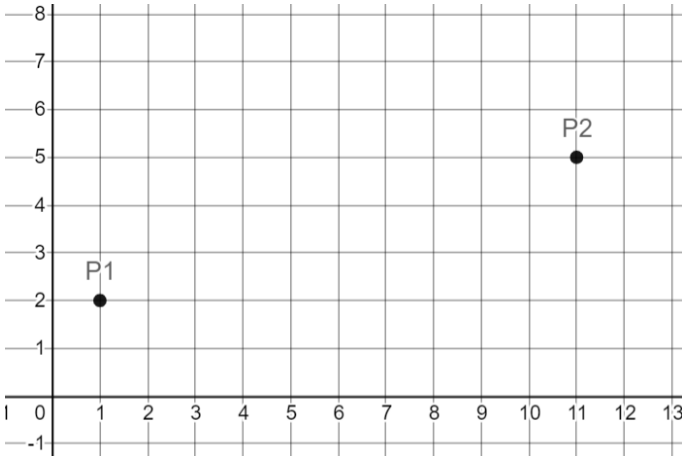
   c.



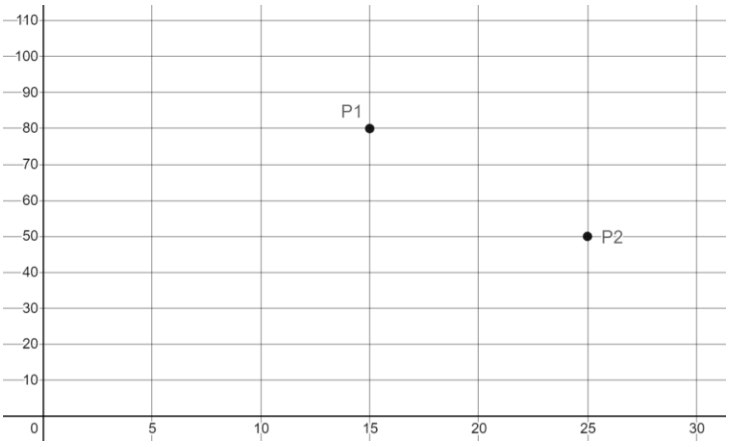
Line of Best Fit Practice Name:_____

5. For each graph, two points are shown, what is the slope of the line connecting those two points? Write slope as a decimal rounded to 2 significant figures.

a.

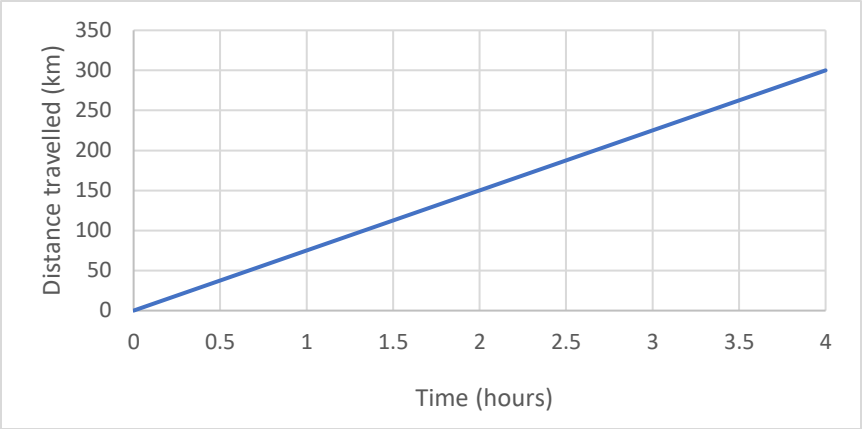


b.



Line of Best Fit Practice Name:_____

6. The distance a person has driven is graphed below. Round all answers to 2 sig figs.



a. What is the independent variable, and what units are used for it?

b. What is the dependent variable, and what units are used for it?

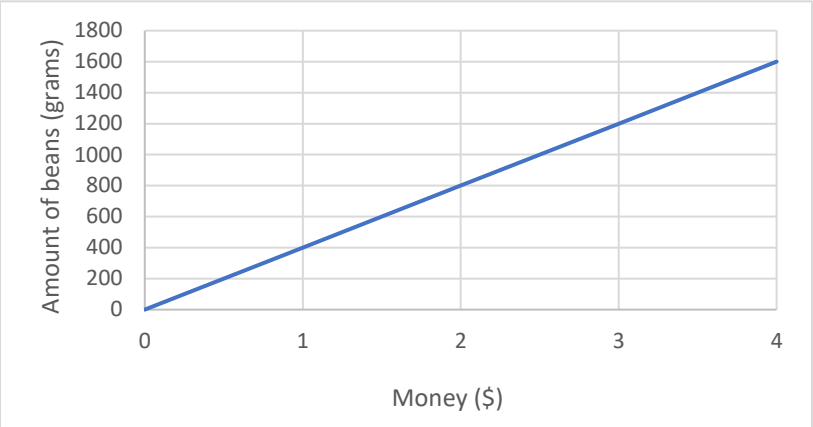
c. How far has the person travelled after 2 hours? Be sure to include units.

d. What is the equation for this relation with units included? Use the variable d for distance travelled and t for time.

e. Use your equation to determine how far the person would have travelled after 6.25 hours.

Line of Best Fit Practice Name:_____

7. The amount of beans a person can buy with x amount of money is graphed below. Round all answers to 1 sig figs.



a. How much beans can they buy with $2?

b. Determine an equation for this relation with units. Use the variable B for amount of beans and m for money.

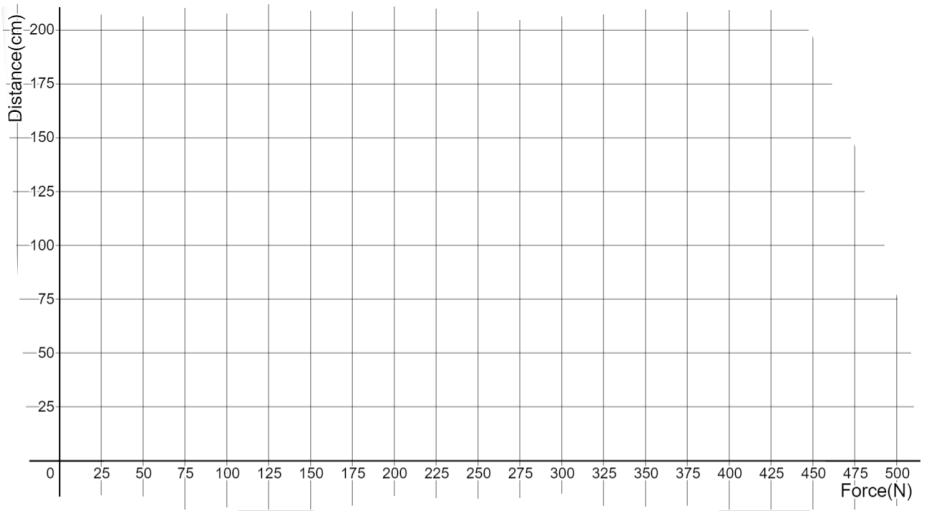
c. Rearrange the equation so that money is the subject.

d. Use the equation from c to determine the cost of 6.3×10^6 grams of beans.

Line of Best Fit Practice Name:_____

8. An experimenter measures the force they apply to a ball and the distance the ball travels before it stops. Use the data to answer the following questions, round all answers to 2 sig figs.

Force (N)	Distance (cm)
50 N	25 cm
100 N	50 cm
150 N	75 cm
250 N	125 cm



a. Plot the points on the graph above, draw a line, and determine an equation for the relationship with units. Use d for distance and F for force.

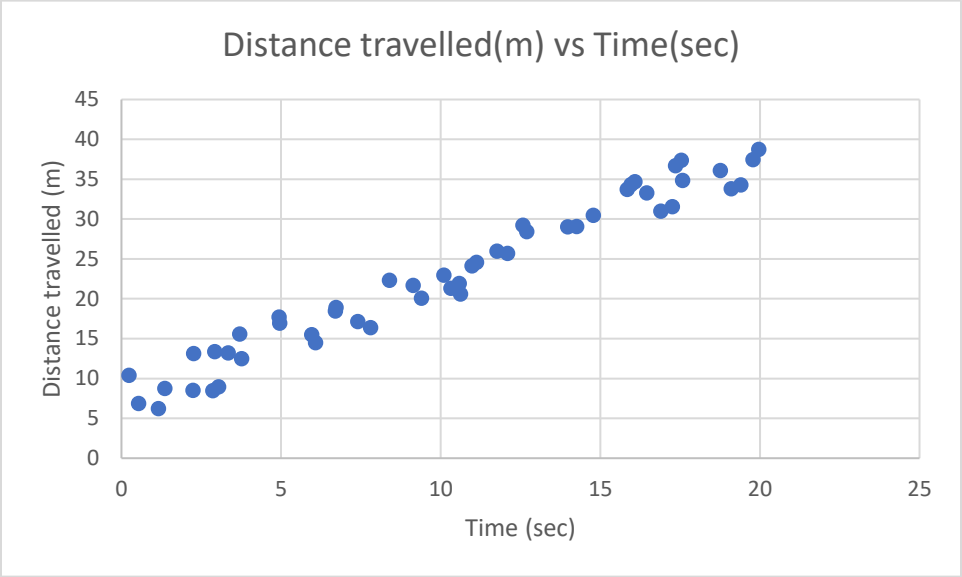
b. Use your equation to determine the distance the ball would travel if you applied 572 N of force.

c. Rearrange the equation so that force is the independent variable.

d. Use the equation from c to determine the force required so the ball travels 65 cm.

Line of Best Fit Practice Name:_____

9. Below is a scatter plot of the distance an object travels as a function of time. Round all answers to 2 sig figs.

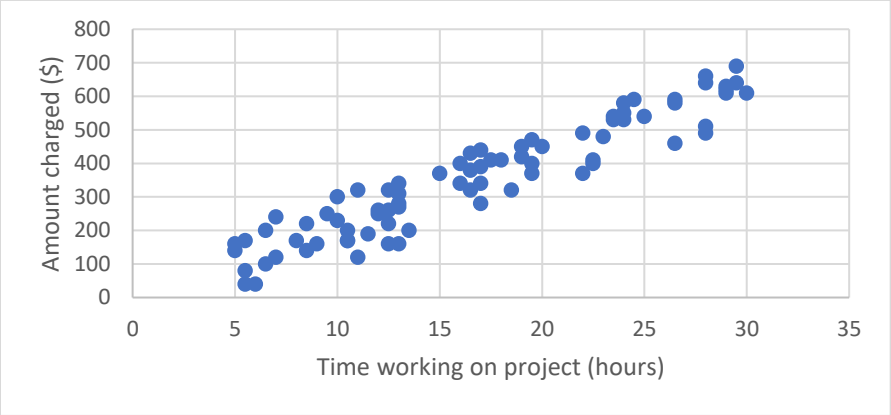


a. Draw a line of best fit on the graph and use it to determine an equation for the relation. Be sure to include units in both your slope and y intercept. Use the variable d for distance and t for time.

b. Use your equation to determine the distance the object will travel after 79 seconds.

Line of Best Fit Practice Name:_____

10. Sal is a handy-person and changes various amounts for different projects. They have recorded the amount they changed and the hours spent working on various projects. Round all answers to 2 sig figs.



a. Draw a line of best fit on the graph and determine an equation for it with units. Choose appropriate variables for amount charged and time working on the project.

b. Looking at the equation from a, about what does Sal charge per hour on average?

c. Using your equation how much would you expect Sal to charge for a project that takes 56 hours?

d. Rearrange your equation so that time is the subject.

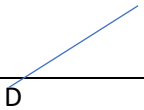
e. Use your equation from d to determine how long Sal would be expected to work on a project with cost of $850?

Line of Best Fit Practice

Name:_____

Line of Best Fit Practice Name:_____

Answer Key

1a) 	1b) 	1c)	2a) C	2b) A
2c) D	2d) E	2f) B	3a) 3	3b) $-\frac{3}{4}$
3c) $\frac{2}{3}$	4a) $y = 0.50x + 1$	4b) $y = -1.5x + 9$	4c) $y = 25x + 75$	5a) 0.30
5b) -3.0	6a) Time, units are hours	6b) Distance, km are the units	6c) 150 km	6d) $d = \left(75\frac{km}{hr}\right)(t)$
6e) 470 km	7a) 800 grams	7b) $B = \left(400\frac{g}{\$}\right)(m)$	7c) $m = \frac{B \cdot \$}{400\ \boldsymbol{g}}$	7d) \$20 000 **OR** $\$2 \times 10^4$
8a) $d = (0.50\frac{cm}{N})(F)$	8b) 290 cm	8c) $F = \frac{d \cdot \boldsymbol{N}}{0.50\boldsymbol{cm}}$	8d) 130 N	9a) Your answer may be slightly different for all of question 9 and 10 due to how you drew your line $d = \left(1.5\frac{m}{s}\right)(t) + 7.5m$
9b) 130 m	10a) $C = (22\frac{\$}{hr})(t)$	10b) \$22	10c) \$1200	10d) $\frac{C \cdot hr}{22\ \$} = t$
10e) 39 hr				