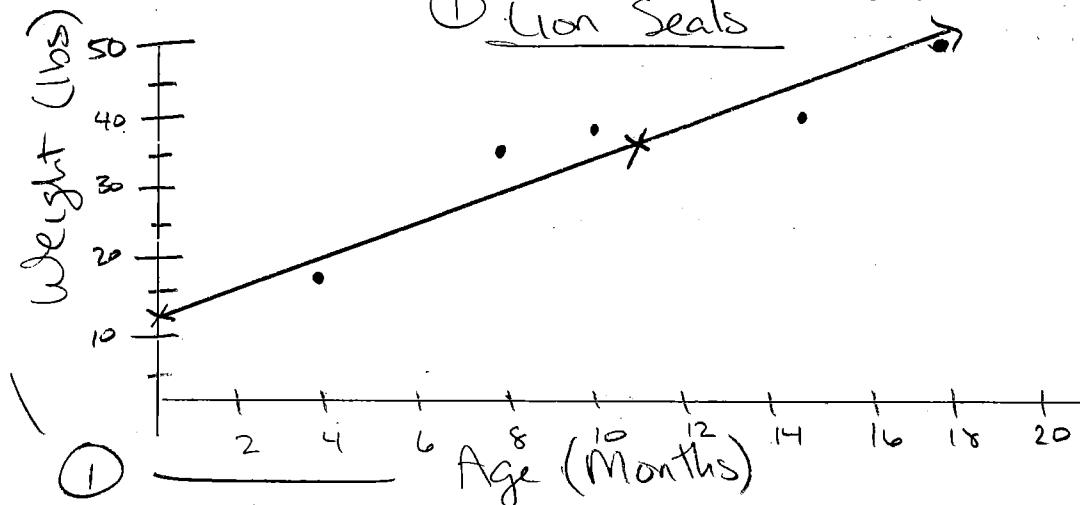


9. The following is a chart of the age and weight in of lion seals in Newport, Oregon.

age in months (x)	4	8	11	15	18
weight in pounds (y)	18	35	36	40	50

a. Draw a scatterplot on the grid below. Be sure to label the graph and the axes carefully.



y-int
 \bar{x}, \bar{y}
 data pts } (3)
 Line of best fit (1)

b. Looking at your plot, would you say that the data has a positive correlation, negative correlation, or no correlation. Explain.

(1) positive, (1) strong

c. Find the equation of the least-squares line.

(1) $y = 1.980x + 13.619$

d. Then draw the line on your scatterplot.

e. Label the y-intercept (0, 13.619) and point (\bar{x}, \bar{y}) . (11.2, 35.8)

f. If a 13 month old seal was weighed, what would you expect it's weight to be?

$$y = 1.980(13) + 13.619$$

39.359 lbs
 (1) (1)

g. If you weighed a seal and it's weight was 21 pounds, what would you expect it's age to be?

$$21 = 1.980x + 13.619$$

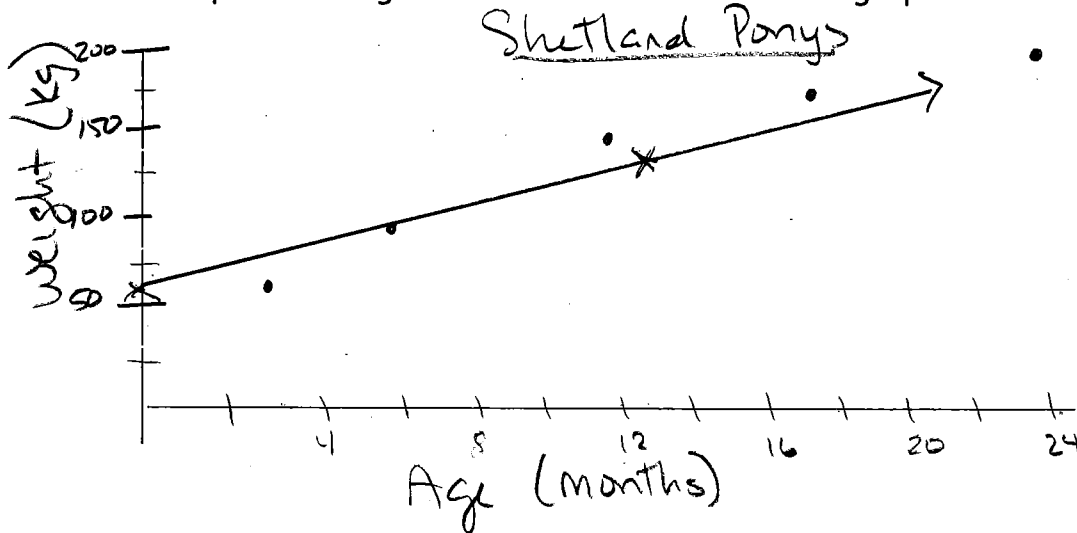
3.728 months
 (1) (1)

$$3.728 = x$$

10. The following is a chart of the age and weight in of healthy Shetland ponys.

age in months (x)	3	6	12	18	24
weight in kilograms (y)	60	95	140	170	185

a. Draw a scatterplot on the grid below. Be sure to label the graph and the axes carefully.



b. Looking at your plot, would you say that the data has a positive correlation, negative correlation, or no correlation. Explain.

positive, strong

c. Find the equation of the least-squares line. $y = 5.894x + 55.732$

d. Then draw the line on your scatterplot.

e. Label the y-intercept (0, 55.732) and point (\bar{x}, \bar{y}) . (12.6, 130)

f. Find the correlation coefficient, and state it's meaning.

.972, Strong, positive linear correlation

g. Find the coefficient of determination and explain it's meaning:

coeff = .945. This means that 94.5% of the weight can be explained by age, and that 5.5% is unexplained.

h. Find the slope and describe its' meaning in the context of the problem

Slope = 5.894

For every 1 month, the weight increases 5.894 kg.