Chapter 6 & 9 Review – Part 1

1) The scatter plot shows the number of geese that migrated to a park each season.

Geese Migration to a Park

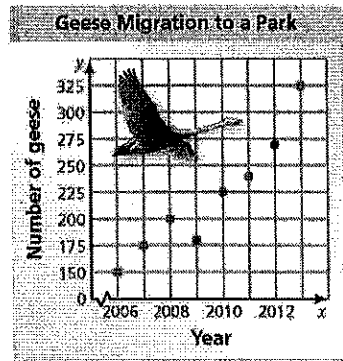   a) In what year did 270 geese migrate?

   2012

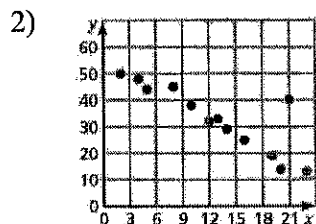   b) How many geese migrated in 2010?

   225 geese

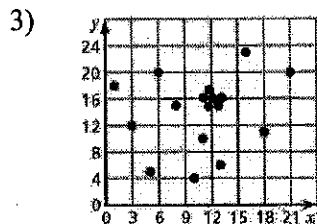   c) Describe the relationship shown by the data.
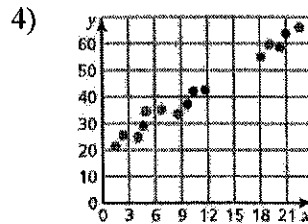
   Positive relationship

Describe the relationship between the data. Identify any outliers, gaps, or clusters.

2)

- Neg. relationship
- Outlier is (21, 40)
- no gaps or clusters

3)

- No relationship
- No outlier
- No gaps
- There is a cluster around the ordered pair (12, 16)

4)

- Pos. relationship
- No outliers
- Gap between x-coordinates of 12 – 18
- No clusters

5) You have been working on a science project for 8 months. Each month, you measured the length of a baby alligator. The following table shows your measurements.

September ↓   April ↓

Month, x	0	1	2	3	4	5	6	7
Length (in.), y	22.0	22.5	23.5	25.0	26.0	27.5	28.5	29.5

Use the following steps to predict the baby alligator's length next September.

a) Graph the data in the table.
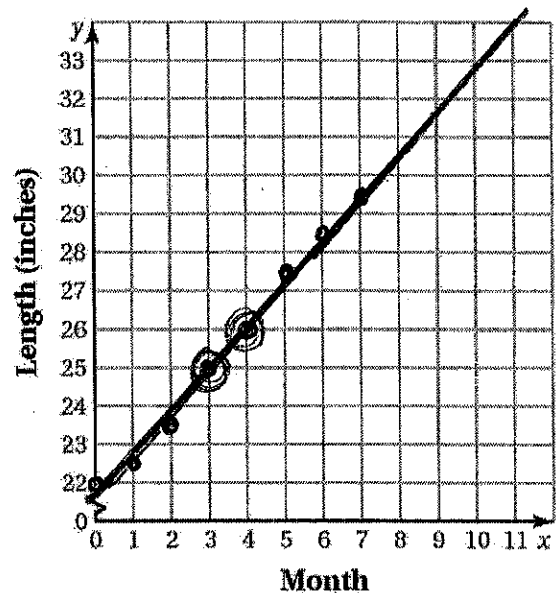
b) Draw a line that you think best approximates the points.

c) Write an equation for your line. $(4, 26)(3, 25)$

$$m = \frac{26-25}{4-3} = 1$$

$$\boxed{y = x + 22}$$

d) Use the equation to predict the baby alligator's length next September.

About 31.5 in

Length (inches) vs **Month**

6) An animal shelter opens in December. The table shows the number of cats adopted from the shelter each month from January to September.

	1	2	3	4	5	6	7	8	9
	3	6	7	11	13	14	15	18	19

a) Make a scatter plot of the data and draw a line of fit.

$(-2, 6)(6, 14)$

b) Write an equation of the line of fit.

$$y = 2x + 3$$

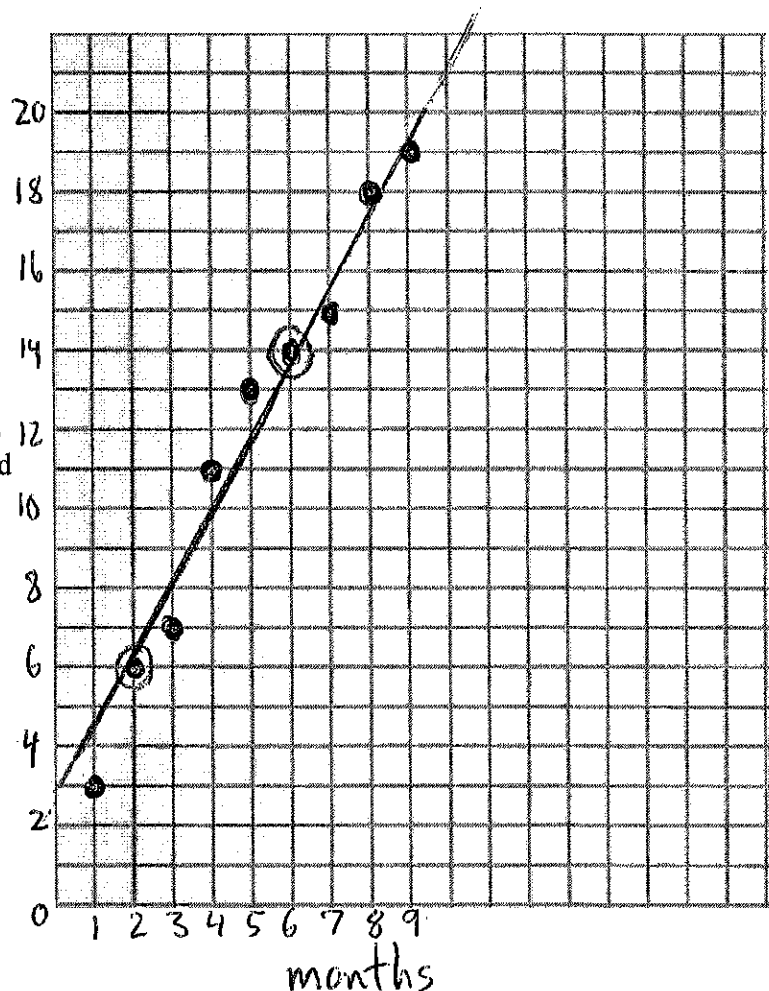$$m = \frac{14-6}{6-2} = \frac{8}{4}$$

$$m = 2$$

c) Interpret the slope and the y-intercept of the line of fit.

Slope means that 2 # cats are adoped per cats month. Y-int means 3 cats were adopted in month zero

d) Predict how many cats will be adopted in October.
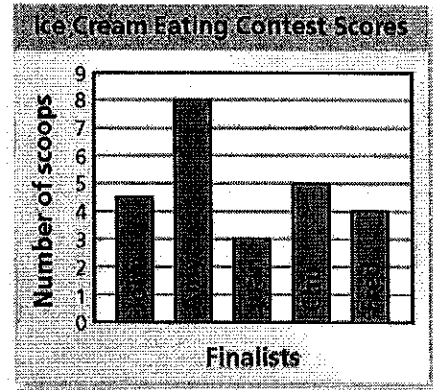
$$y = 2(10) + 3$$

$$y = 23 \text{ (about)}$$

months

7) A class held an ice cream eating contest. The finalist scores are shown in the bar graph.

a) How many scoops did John eat?

4.5 scoops

b) What is the average number of scoops eaten by the finalists?

4.9 = mean

Ice Cream Eating Contest Scores

Number of scoops / Finalists

$4.5 + 8 + 3 + 5 + 4 = 24.5 \div 5$
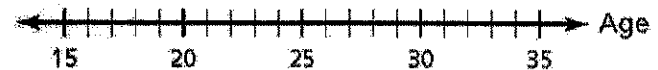
c) How many scoops did Amy eat compared to Juan?

Amy ate 8 scoops compared to Juan's 3 scoops (5 more)

d) What is the median amount of scoops eaten?

3, 4, 4.5, 5, 8

↑ median

4.5 = median

7) The following is a box-and-whiskers chart of ages of teachers at Young Middle School

Age

15   20   25   30   35

a) What is the median age of the teachers?

25 years old

b) How old the youngest and oldest teachers?

18 = youngest   30 = oldest

c) What percent of the teachers are between 18 and 30 years old?

100%

d) What is the range of teachers' ages?

$30 - 18 = 12$ years

8) Find the mean, median, mode, and range. If an answer is not a whole number, round to the nearest tenth.

a) Mean = $527 \div 8 = 65.875$

$= 65.9$

b) Median = 65

c) Mode = 64, 65, + 68

d) Range = $72 - 61 = 11$

61, 64, 64, 65, 65, 68, 68, 72

9) A family is making a monthly budget. Its total take-home pay for a month is $2400.

a) What category had the most expenditures?

Food

b) How much money was budgeted for Rent?

$600

$$2400 \cdot 0.25 = 600$$

c) How much money was budgeted for Misc?

$$2400 \cdot 0.21 = 504$$

$504

d) In the circle graph, how many degrees is the sector of "Clothes"?

$$360 \cdot 0.15 = 54°$$