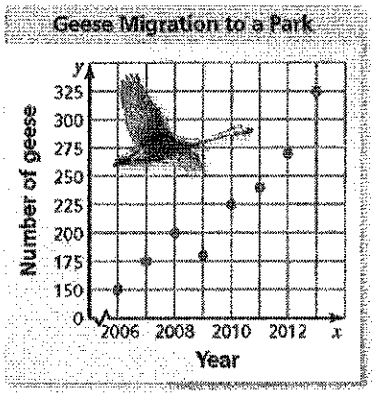
Name KEY Date

Chapter 9 Review

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



a) In what year did 270 geese migrate?

2012

b) How many geese migrated in 2010?

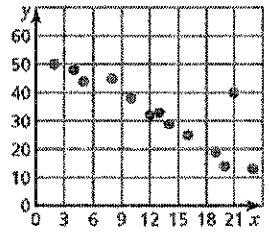
225 geese

c) Describe the relationship shown by the data.

positive linear relationship

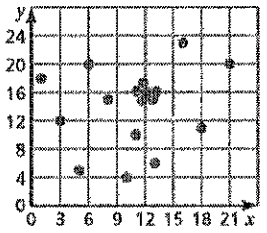
Describe the relationship between the data. Identify any outliers, gaps, or clusters.

2)



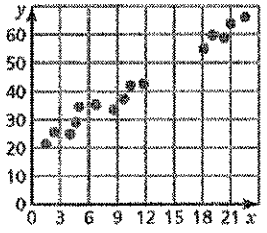
- Negative
- Outlier: (21, 40)
- no gaps
- no clusters

3)



- No relationship
- No outlier
- No gaps
- Cluster at (12, 16)

4)



- Positive
- No outliers
- Gap between x-values of 12-18
- No real 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.

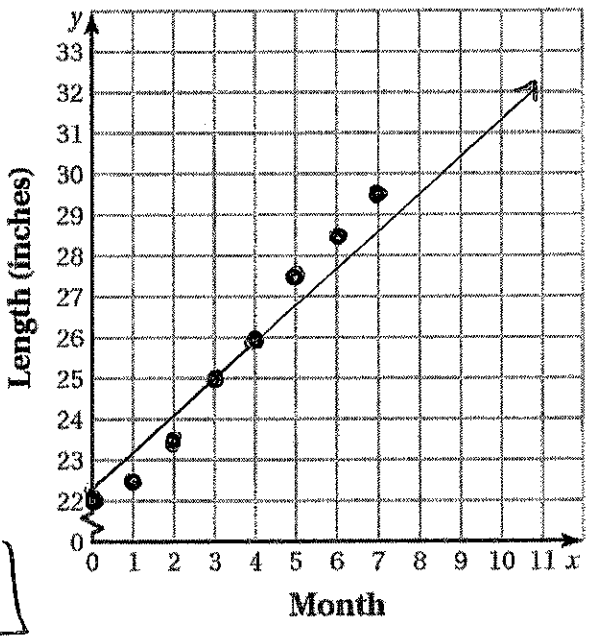
September ↓ April ↓

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.

$y = x + 22$

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

$y = 1(12) + 22$

$= 12 + 22$

$y \approx$ 34 inches

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

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

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

b) Write an equation of the line of fit.

$y = \frac{4}{3}x + 4$

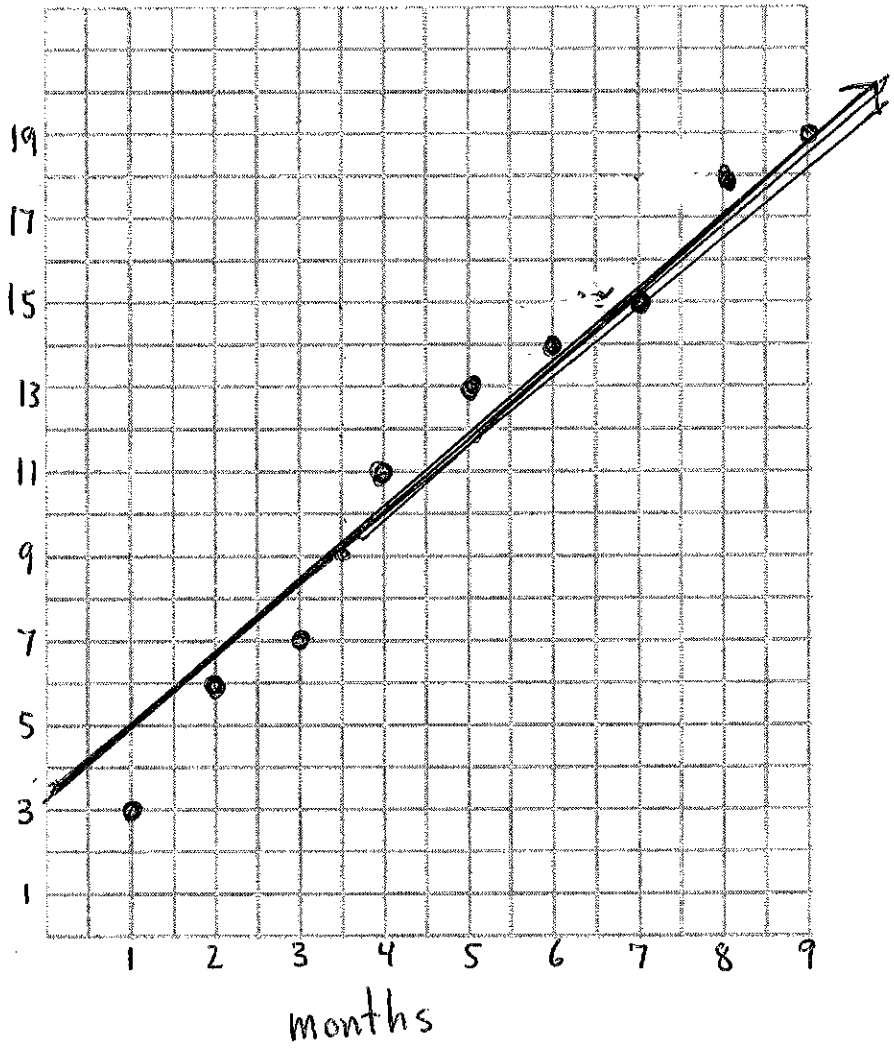
c) Interpret the slope and the y-intercept of the line of fit.

Slope → 4 cats adopted every 3 months

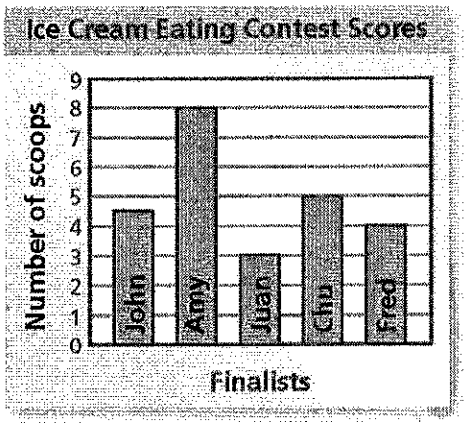
y-int → 4 cats were adopted before the 1st month

d) Predict how many cats will be adopted in October.

about 20 or 21 cats



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?

$\frac{4.5+8+3+5+4}{5} = \frac{24.5}{5} = 4.9$

about 5 scoops

c) How many scoops did Amy eat compared to Juan?

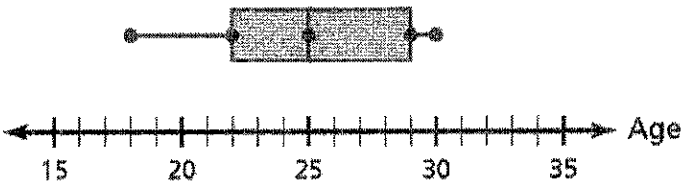
Amy ate 8, Juan ate 3 so Amy ate 5 more scoops

d) What is the median amount of scoops eaten?

3, 4, [4.5], 5, 8 ↑ median

[4.5 scoops]

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



a) What is the median age of the teachers?

25 years old

b) How old are the youngest and oldest teachers?

youngest = 18 oldest = 30

c) What percent of the teachers are between 22 and 29 years old?

50% (25% per quartile)

d) What is the range of teachers' ages?

30 - 18 = [12 years]

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

~~4, 0, 8, 2, 1, 7, 2, 4, 26, 2, 10~~

a) Mean = 66 ÷ 6 = [11]

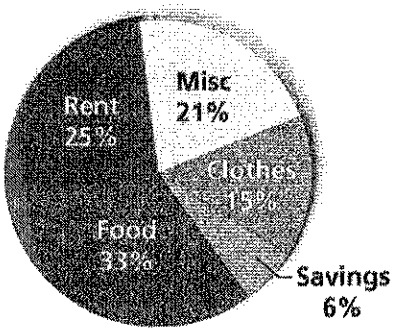
0, 1, 2, 2, 2, (4), 4, 7, 8, 10, 26

b) Median = [4]

c) Mode = [2]

d) Range = 26 - 0 = [26]

10) 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?

25% of 2400

$0.25 \cdot 2400 = \$600$

c) How much money was budgeted for Misc?

21% of 2400

$0.21 \cdot 2400 = \$504$

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

$\frac{15}{100} = \frac{X}{360}$ → $3 \cdot X = 20 \cdot 360$, $1 \cdot 20 \cdot 360 = 18$

$X = 54$

11) You randomly survey people at a mall about whether they like the new food court. The results are shown.

	Like?		
Age group	Like	Dislike	total
teens	96	4	100
Adults	21	79	100
Seniors	18	82	100
total	135	165	300

Teenagers
96 likes, 4 dislikes

Adults
21 likes, 79 dislikes

Senior Citizens
18 likes, 82 dislikes

a) Make a two-way table that includes the marginal frequencies.

b) Find and interpret the marginal frequencies for the survey.

- 100 teens, Adults, and senior citizens each were surveyed
- 135 people surveyed liked the food court
- 165 people surveyed did not like food court
- 300 people were surveyed total