Name _____ Date Problems 5, 7-12

Practice Worksheet 10-2

Measures of Central Tendency

Find the mean, median, and mode for each set of data. Round to the nearest tenth, if necessary.

1. 2.5, 2.4, 2.9, 2.7, 2.4, 2.3, 2.4, 2.9, 2.3, 2.4

2. 1, 5, 8, 3, 10, 7, 8, 10, 3, 8, 6, 3, 4, 9

3. 70, 85, 90, 65, 70, 85, 100, 60, 55, 95, 85, 70, 75

4. 80, 70, 85, 90, 75, 75, 90

5. 7.0, 6.3, 7.5, 6.4, 8.9, 5.4, 7.9, 6.8

mean = 7.025 = 7

median = 6.9

mode = none

6. 5, 7, 7, 9, 10, 10, 12

Use the data at the right for Exercises 7 – 12.

WEIGHTS OF STUDENTS IN CLASS

Name	Weight (kg)
Martha	49
Mary	60
Tom	58
Gene	73
Chip	67
Meg	60
Dottie	63
Sean	60
Kim	64
Ali	68
Jesse	60

7. What is the mode?

60

8. What is the mean?

62

9. What is the median?

60

Suppose Sonya enrolls in the class and her weight is 51 kg. Without computing, answer these questions.

10. How will Sonya affect the new mean?

it will go down

11. How will Sonya affect the new median?

will not affect it

Suppose Hector now joins the class. His weight is 70 kg.

12. When both Sonya and Hector join the class, what are the new mode, mean, and median?

mean = 61.8

median = 60

mode = 60

Name _____ Date _____

Practice Worksheet 10-4

Measures of Variation

Here are the weights, in pounds, of people in an aerobics class.
118, 112, 130, 106, 116, 146, 143, 129, 150, 132, 116, 118, 118, 109, 108, 114, 124, 126, 124, 113, 132, 136, 153, 127, 121, 134, 106, 129

1. What is the range of weights?

2. What is the median weight?

3. Did anyone actually have the median weight?

4. What are the upper and lower quartile weights?

5. What is the interquartile range?

6. Write a paragraph describing the weights. Include information about the whole aerobics class and about the middle half of the class.

The stem-and-leaf plots at the right show the test scores for Kyle and Matt during the first quarter.

7. How do their medians compare?
Kyle: 77.5
Matt: 74

8. How do their ranges compare?
Kyle: 47
Matt: 56

9. How do their interquartile ranges compare?

10. Which student is more consistent? Explain your answer.

TEST SCORES FOR 1ST QUARTER

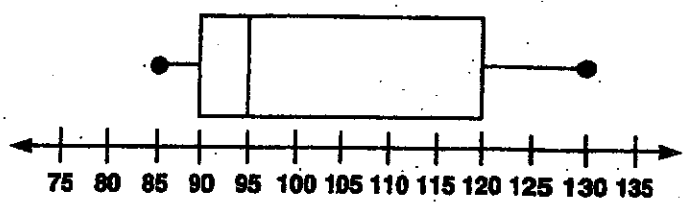
Kyle		Matt
8	4	0
6	5	9
40	6	5
50	7	0244589
5320	8	0
50	9	6

Name _____ Date _____

Practice Worksheet 10-5

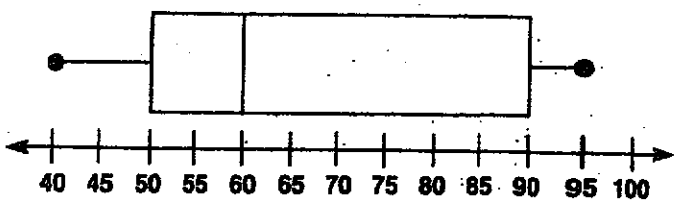
Box-and-Whisker Plots

Use the box-and-whisker plot at the right to answer each question.



1. What is the median?
95
2. What is the range?
55
3. What is the upper quartile?
120
4. What is the lower quartile?
90
5. What is the interquartile range?
30
6. What are the extremes?
7. What are the limits of the outliers?
8. Are there any outliers?

Use the box-and-whisker plot at the right to answer each question.



9. What is the median?
60
10. What is the range?
55
11. What is the upper quartile?
90
12. What is the lower quartile?
50
13. What is the interquartile range?
40
14. What are the extremes?
15. What are the limits of the outliers?
16. Are there any outliers?

NAME _____ DATE _____

14-1 Practice Worksheet

Statistics and Line Plots

1. The average number of participants per day in certain activities at Carl's Country Club are listed by age groups. Use the table to answer each question.

	Age			
	12–24	25–39	40–59	60 and over
Swimming	79	65	41	18
Bicycling	55	37	22	7
Jogging	51	31	13	2
Tennis	32	20	10	1
Golfing	16	13	13	7

a. What is the most popular activity for people ages 60 and over?

b. What is the least popular activity for people ages 40–59?

c. What is the least popular activity for all ages?

d. Which age group has the most participants in all activities?

e. Which age group has the fewest participants in all activities?

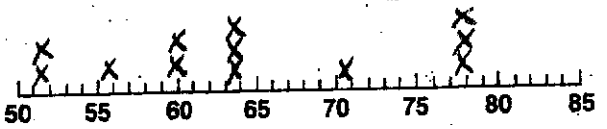
f. If you were age 60 or over and wanted to participate in an activity with a partner in your age group, which activity would you want to avoid?

2. The income of a private investigator for each month for a recent calendar year is listed in the table at the right.

Month	Income in Dollars
January	6390
February	6390
March	7800
April	6390
May	6000
June	6000
July	5600
August	5130
September	7800
October	7800
November	7080
December	5130

a. Make a line plot of the data on the number line provided.

Income of a Private Investigator (hundreds of dollars)



b. In which months did the investigator earn the least? Aug + Dec

c. In which months did the investigator earn the most? Mar, Sept, Oct

d. Identify the heaviest cluster of data in any 500-unit span on the scale. 60-65 (6000-6500)

NAME _____ DATE _____

14-2 Practice Worksheet

Stem-and-Leaf Plots

1. The stem-and-leaf plot at the right below shows the scores for a 100-point unit exam in a science class.

Stem	Leaf
5	2 4 6 6
6	1 5 8
7	2 4 4 4 5 7
8	2 3 3
9	0 2 5 6

7|2 represents 72.

a. What were the highest and lowest scores on this test? 96 + 52

b. Which test score occurred most frequently? 74

c. In which 10-point interval did most of the students score? 68 - 77

d. How many students received a score of 70 or better? 13

e. How many students received a score less than 70? 7

2. Each number below represents the age of a worker at Fred's Fast Food.

20 52 21 39 40 58 27 48 36 20 51 26
45 30 49 22 59 50 33 35 28 43 55 20

a. Make a stem-and-leaf plot of the data. Use the space provided.

Stem	Leaf
2	0 0 0 1 2 6 7 8
3	0 3 5 6 9
4	0 3 5 8 9
5	0 1 2 5 8 9

b. How many people work at Fred's Fast Food? 24

c. What is the difference in the ages between the oldest and youngest workers at Fred's? 39

d. What is the most common age for a worker? 20

e. Which age group is most widely represented? 20's

f. How many workers are older than 35 years? 13

3. Each number below represents round lots of XXYZ stock traded each day over a 28-day period.

814 722 144 413 812 118 214 533 219 254
183 733 624 121 325 166 722 766 814 723
325 445 388 239 357 746 537 155

Stem	Leaf

a. Make a stem-and-leaf plot of the data in the space provided. Round numbers of shares to the nearest ten.

b. How many times were more than 300 round lots of stock traded?

NAME _____ DATE _____

14-3 Practice Worksheet

Measures of Central Tendency

Find the mean, median, and mode for each set of data.

1. 2, 5, 11, 3, 9

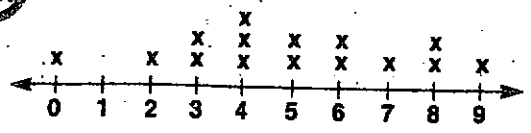
2. 6, 3, 3, 12, 14, 17

3. 1, 6, 7, 6, 8, 10, 10

4. 5, 0, 11, 1, 14, 3, 4, 7, 11

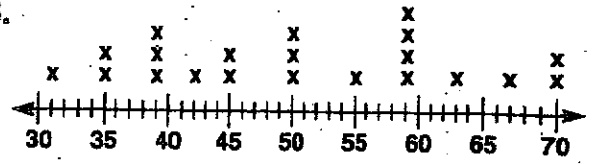
Find the median and mode of the data shown in each line plot.

5.



median - 5
mode - 4

6.



Find the median and mode of the data shown in each stem-and-leaf plot.

7.

Stem	Leaf
2	1 3 7 7 8
3	0 1 9
4	2 4 4 4 6 8

2|3 represents 23.

8.

Stem	Leaf
5	5 7 8
6	1 3 7 9
7	0 4 6 6

5|7 represents 57.

9.

Stem	Leaf
5	2 4 6
6	4 5
7	0 2 6 6 9
8	1 5 7 7 7
9	8

5|2 represents 5.2

7.6 median
8.7 mode

10. The prices of a sweater in six different stores are $31.95, $26.30, $29.00, $32.50, $25.25, and $38.00. Find the mean and median prices of the sweater.

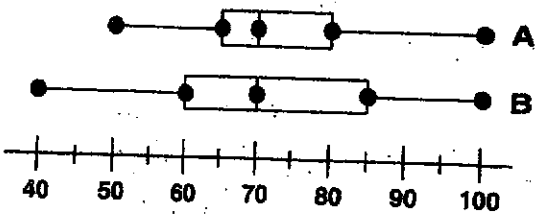
11. Jack's scores on 20-point quizzes are 16, 18, 10, 15, 19, 16, 15, 19, 20, 16, 12, 17, 16, 15, 18, 14, and 16. Find the mean, median, and mode of his quiz scores.

NAME _____ DATE _____

14-5 Practice Worksheet

Box-and-Whisker Plots

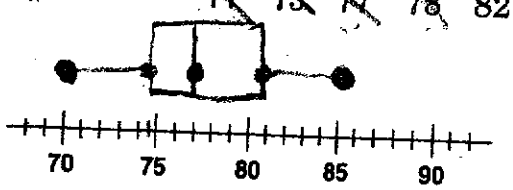
Compare box-and-whisker plots A and B to answer each question.



1. What is the median of each set of data?
   A = 70
   B = 70
2. Which plot has the lesser range?
   A
3. Which plot has the greater interquartile range?
   B
4. What is the upper quartile of each set of data?
   A - 80
   B - 85
5. What is the lower quartile of each set of data?
   A = 65
   B = 60
6. What is the least value in plot A?
   50
7. What is the greatest value in plot B?
   100
8. Which plot illustrates the larger range of data?
   B
9. What percent of the data in plot B is between 60 and 85?
   50%
10. What percent of the data in plot A is greater than 80?
    25%
11. What percent of the data in plot A is less than 65?
    25%
12. The numbers below represent twenty eighteen-hole scores of a golfer at Crystal Springs Golf Club. Make a box-and-whisker plot of this data in the space provided.

84	74	80	79	83
77	81	72	85	75
75	70	78	77	72
77	73	77	78	82

70 72 72 73 74 75 75
77 77 77 | 77 78 78 79 80
81 82 83 84 85



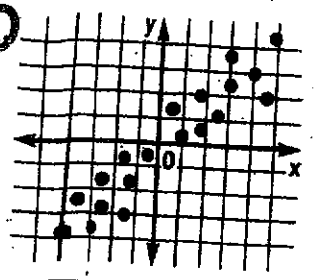
13. What is the median score?
    77
14. What percent of the scores were lower than 80?

NAME _____ DATE _____

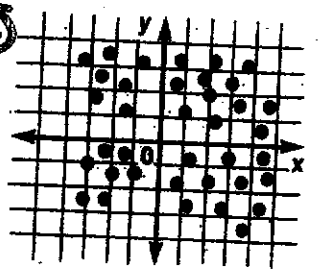
14-6 Practice Worksheet

Scatter Plots

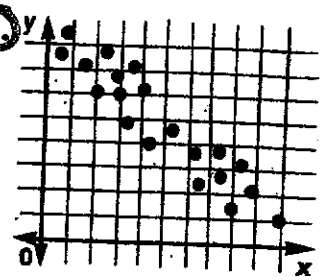
Which graphs show an association between the variables? If there is an association, is it positive, negative, or no correlation?

1. 

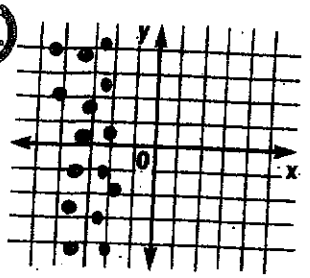
Pos

2. 

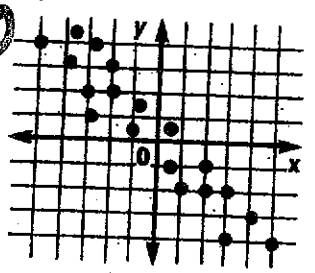
no

3. 

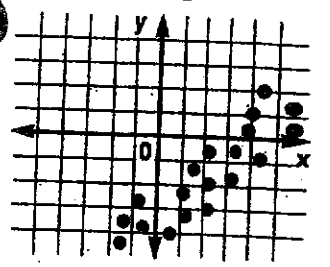
neg

4. 

no

5. 

neg

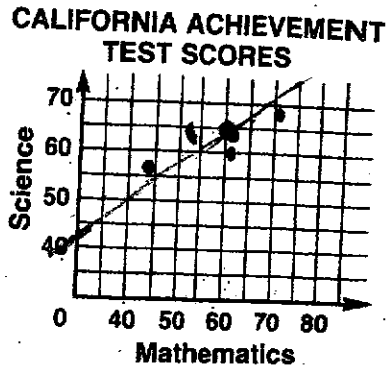
6. 

pos

The average California Achievement Test scores for Wesley High School sophomores in mathematics and science for years from 1985 to 1989 are given in the table at the right.

Year	Mathematics Score	Science Score
1985	60	65
1986	53	65
1987	44	57
1988	61	61
1989	70	67

7. Make a scatter plot of the data. Use the coordinate plane provided.



8. Does the scatter plot show a positive or negative association? pos

9. Predict the mathematics score corresponding to a science score of 50. 40

10. Predict the science score corresponding to a mathematics score of 65. 67

NAME _____ DATE _____

14-7 Practice Worksheet

Probability and Odds

Find the probability of each outcome if a die is rolled.

1. a 1 $\frac{1}{6}$
2. a number less than 3 $\frac{2}{6} = \frac{1}{3}$
3. an odd number $\frac{3}{6} = \frac{1}{2}$
4. a number greater than 6 $\frac{0}{6} = 0$
5. an even number less than 6 $\frac{2}{6} = \frac{1}{3}$
6. a number greater than 0 $\frac{6}{6} = 1$

Find the odds of each outcome if a die is rolled.

7. a multiple of 2 3 : 3 or 1 : 1
8. a number less than 2
9. a factor of 6
10. a 5
11. not a 1 5 : 1
12. a number greater than 5 1 : 5

A card is selected at random from a deck of 52 cards.

13. What is the probability of selecting a red card?
14. What is the probability of selecting an ace?
15. What are the odds of selecting a diamond?
16. What are the odds of not selecting a black 2?

The number of male and female doctors in Camron are listed by age in the table at the right. Use this data to answer the following questions.

17. What is the probability that a doctor chosen is in the 45-54 age group? $\frac{19+3}{132} = \frac{22}{132} = \frac{11}{66} = \frac{1}{6}$
18. What is the probability that a doctor chosen is a female? $\frac{31}{132}$
19. What are the odds that a doctor chosen is a female under 35 years? 18 : 114
20. What are the odds that a doctor chosen is a male between the ages of 35 and 54 years?

55 :

Camron Doctors

Age	Male	Female
Under 35	29	18
35–44	36	8
45–54	19	3
55–64	17	2

101 31

132 total doctors

Class _____ Date _____

Practice 2-7

Probability of Compound Events

1. Suppose you have a dark closet containing seven blue shirts, five yellow shirts, and eight white shirts. You pick two shirts at random from the closet. Find each probability.

7 + 5 + 8 = 20
B Y W

a. $\frac{7}{20} \cdot \frac{5}{20}$
$= \frac{7}{20} \cdot \frac{1}{4}$
$= \frac{7}{80}$

a. P(blue then yellow) with replacing
b. P(blue then yellow) without replacing
c. P(yellow then yellow) with replacing
d. P(yellow then yellow) without replacing
e. P(yellow then white) with replacing
f. P(yellow then white) without replacing
g. P(blue then blue) with replacing
h. P(blue then blue) without replacing

***A* and *B* are independent events. Find the missing probability.**

2. $P(A) = \frac{3}{7}, P(A \text{ and } B) = \frac{1}{3}$. Find $P(B)$.
3. $P(B) = \frac{1}{5}, P(A \text{ and } B) = \frac{2}{13}$. Find $P(A)$.
4. $P(B) = \frac{15}{16}, P(A \text{ and } B) = \frac{3}{4}$. Find $P(A)$.
5. $P(A) = \frac{8}{15}, P(B) = \frac{3}{4}$. Find $P(A \text{ and } B)$.

6. Suppose you draw two tennis balls at random from a bag containing seven pink, four white, three yellow, and two striped balls. Find each probability.

7 4 3 2 = 16
P W Y St.

a. P(yellow then pink) with replacing
b. P(yellow then pink) without replacing
c. P(pink then pink) with replacing
d. P(pink then pink) without replacing
e. P(striped then striped) with replacing
f. P(striped then striped) without replacing
g. P(pink then white) with replacing
h. P(pink then white) without replacing

***A* and *B* are independent events. Find the missing probability.**

7. $P(A) = \frac{3}{4}, P(A \text{ and } B) = \frac{1}{2}$. Find $P(B)$.
8. $P(A) = \frac{3}{7}, P(B) = \frac{1}{6}$. Find $P(A \text{ and } B)$.
9. $P(B) = \frac{9}{10}, P(A \text{ and } B) = \frac{3}{5}$. Find $P(A)$.
10. $P(B) = \frac{1}{4}, P(A \text{ and } B) = \frac{3}{20}$. Find $P(A)$.

Use an equation to solve each problem.

11. A bag contains green and yellow color tiles. You pick two tiles at random without replacing the first one. The probability that the first tile is yellow is $\frac{3}{5}$. The probability of drawing two yellow tiles is $\frac{12}{35}$. Find the probability that the second tile you pick is yellow.

12. A bag contains red and blue marbles. You pick two marbles at random without replacing the first one. The probability of drawing a blue and then a red is $\frac{4}{15}$. The probability that your second marble is red if your first marble is blue is $\frac{2}{3}$. Find the probability that the first marble is blue.

2.7

① a. P(b then y) w/ replacing

$\frac{7}{20} \cdot \frac{5}{20} = \frac{35}{400} = \boxed{\frac{7}{80}}$

b. P(b then y) w/o replacing

$\frac{7}{20} \cdot \frac{5}{19} = \frac{35}{390} = \boxed{\frac{7}{76}}$

c. P(Y then Y) w/ replacing

$\frac{5}{20} \cdot \frac{5}{20} = \frac{25}{400} = \boxed{\frac{1}{16}}$

d. P(Y then Y) w/o replacing

$\frac{5}{20} \cdot \frac{4}{19} = \frac{20}{380} = \boxed{\frac{1}{19}}$

e. P(Y then W) w/ replacing

$\frac{7}{20} \cdot \frac{8}{20} = \frac{56}{400} = \boxed{\frac{7}{100}}$

f. P(Y then W) w/o replacing

$\frac{7}{20} \cdot \frac{8}{19} = \frac{56}{380} = \boxed{\frac{14}{95}}$

g. P(B then B) w/ replacing

$\frac{7}{20} \cdot \frac{7}{20} = \boxed{\frac{49}{400}}$

h. P(B then B w/o replacing

$\frac{7}{20} \cdot \frac{6}{19} = \frac{42}{380} = \boxed{\frac{21}{190}}$

2.7

(6)

a. $\frac{3}{16} \cdot \frac{7}{16} = \frac{21}{256}$

b. $\frac{1}{16} \cdot \frac{7}{5} = \frac{7}{80}$

c. $\frac{7}{10} \cdot \frac{7}{16} = \frac{49}{256}$

d. $\frac{7}{8} \cdot \frac{1}{5} = \frac{7}{40}$

e. $\frac{1}{8} \cdot \frac{1}{8} = \frac{1}{64}$

f. $\frac{1}{8} \cdot \frac{1}{15} = \frac{1}{120}$

g. $\frac{7}{16} \cdot \frac{1}{4} = \frac{7}{64}$

h. $\frac{7}{4} \cdot \frac{4}{15} = \frac{7}{60}$