

Test 2 Review

Name: _____ Date: _____ Period: _____

Know your Vocab!!!

Bar Graph	Strength	Dot plot	Box & Whisker Plot	Outliers
Pareto Chart	Strong	Stem & leaf Plot	Plot	Shape
Time Series	Moderate	Mean	Minimum	Center
Graph	Weak	Median	First Quartile	Spread
Histogram	Correlation	Mode	Third Quartile	Left Skewed
Class Width	Interpolation	Weighted	Maximum	Right Skewed
Scatterplot	Extrapolation	Average	Interquartile	Symmetric
Direction	Regression Line		Range	Bimodal

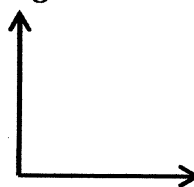
Short Answer—Answer the following.

- Find the mean, median, mode, and standard deviation of the following data set,
 $\{30, 19, 51, 63, 10, 51, 23, 84, 66, 13, 5\}$
 Mean: 37.7 Median: 30 Mode: 51 Standard Deviation: 26.48
- Find the mean, median, mode, and standard deviation of the following data set,
 $\{0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100\}$
 Mean: 50 Median: 50 Mode: none Standard Deviation: 33.17
- Grades are often computed using a weighted average. Suppose that homework counts 20%, quizzes 30%, and tests 50%. If Sam has the following scores, what is his overall grade? **Homework: {100, 70, 100, 100, 100, 95, 100}, Quiz: {98, 100, 94, 100}, Test: {97, 90}**: Overall Grade: 95.15%
- Grades are often computed using a weighted average. Suppose that homework counts 20%, quizzes 30%, and tests 50%. If Sam has the following scores, what is his overall grade? **Homework: {80, 70, 100, 0, 100, 100, 90, 100}, Quiz: {80, 94, 91, 85}, Test: {91, 80}**: Overall Grade: 85%
- Find the 5# Summary and IQR of the following data set, {35, 45, 47, 41, 25, 36, 27, 41, 34, 73, 26, 58, 29, 20, 28, 35, 48, 43, 42, 45}. 20 / 28.5 / 38.5 / 44 / 73 / 15.5 = IQR
- Find the 5# Summary and IQR of the following data set, {75, 80, 75, 77, 75, 80, 83, 80, 71, 70}. 70 / 75 / 76 / 80 / 83 / 5 = IQR

The table shows the weight of an alligator at various times during a feeding trial.

7. Make a scatterplot in your calculator of the table and sketch it below.

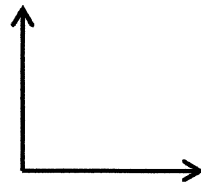
Weeks	0	9	18	27	34	43	49
Weight in pounds	6	8.6	10	13.6	15	17.2	19.8



8. Find the correlation coefficient, r . .99
9. Use your calculator to find the equation of the regression line. Write the regression equation: $y = 5.8 + .3x$
10. Predict the weight of an alligator at week 62. 24.4 An example of: interpolation or extrapolation
11. Predict the weight of an alligator at week 12. 9.4 An example of: interpolation or extrapolation

A random sample of boarding school students was asked how many 8-ounce servings of soda they had consumed on a certain Sunday and how many hours of sleep they got that night. Their responses are displayed in the table below.

Soda	Sleep
0	6
0	8
1	6
1	7
2	7
3	5
3	8
4	6
5	5
6	3
6	6
7	4
7	6
8	3
10	2



12. Make a scatterplot in your calculator of the table and sketch it here.
13. Find the correlation coefficient, r . $-.78$
14. Use your calculator to find the equation of the regression line. Write the regression equation: $y = 7.4 - .5x$
15. Predict the amount of sleep Charlotte would get if she drank 6 sodas. 4.4 hrs
An example of: *interpolation or extrapolation*
16. Predict the amount of sleep Charlotte would get if she drank 13 sodas. 9 hrs.
An example of: *interpolation or extrapolation*

Constructions—Draw the following on a separate sheet of paper if necessary

17. During June, a local theater recorded the following number of patrons per day.

162	116	113	132	128	117	156	192	183	171	168	179
170	160	163	186	195	158	163	167	169	196	117	107
171	173	161	163	168	182						

- (a) Construct a **histogram** of the data. Use five classes.
- (b) Describe the shape, center, spread, and outliers of the distribution

18. The following is a list of prices of items sold at a garage sale.

34	2	11	30	4	29	5	24	8	10	5	10
2	12	5	15	20	23	25	18	25	29	11	30
8	6	30	15	5	26	32	17				

- (a) Construct a **histogram** of the data. Use four classes.
- (b) Describe the shape, center, spread, and outliers of the distribution

19. The ages of 22 students in a karate class are given below.

11, 5, 9, 13, 8, 9, 9, 11, 10, 8, 6, 7, 12, 11, 13, 12, 7, 6, 11, 12, 10, 8

- (a) Construct a **Dot Plot**
- (b) Describe the shape, center, spread, and outliers of the distribution

20. The ages of 22 students in a karate class are given below.

11, 5, 9, 13, 8, 9, 9, 11, 10, 8, 6, 7, 12, 11, 13, 12, 7, 6, 11, 12, 10, 8

- (a) Construct a **Dot Plot** of the data.
- (b) Describe the shape, center, spread, and outliers of the distribution

21. A particular company was recording the age of all of their workers.

48	63	42	51	68	56	83	41
47	73	79	58	62	78	40	68

- (a) Construct a **Stem & Leaf Plot**
- (b) Describe the shape, center, spread, and outliers of the distribution

22. The daily temperatures of the month of February were recorded,

~~35~~ ~~45~~ ~~42~~ ~~41~~ ~~25~~ ~~36~~ ~~27~~ ~~41~~ ~~34~~ 73 ~~26~~ 58
~~28~~ ~~28~~ ~~28~~ ~~35~~ ~~48~~ ~~43~~ ~~42~~ ~~45~~ ~~21~~ ~~26~~ ~~35~~ ~~41~~
~~47~~ ~~40~~ ~~39~~ ~~28~~ 19

- (a) Construct a **Stem & Leaf Plot**
 (b) Describe the shape, center, spread, and outliers of the distribution

23. {20, 30, 10, 20, 10, 80, 60, 40, 50, 40, 70}

- (a) Construct a **Box & Whisker Plot**.
 (b) Describe the shape, center, spread, and outliers of the distribution

24. {11, 14, 16, 29, 30, 28, 48, 20, 27, 15, 60}

- (a) Construct a **Box & Whisker Plot**.
 (b) Describe the shape, center, spread, and outliers of the distribution

25. {20, 25, 27, 30, 34, 40, 50, 52, 59, 60, 60}

- (a) Construct a **Box & Whisker Plot**.
 (b) Describe the shape, center, spread, and outliers of the distribution

26. A survey of 350 local families asked the question, "Where are you planning to vacation this summer?"
 Construct a **Bar Graph** from the following results.

Area	# Vacationing
Tennessee	32
New York	85
California	125
Florida	46
Hawaii	62

27. Construct a **PARETO CHART** using the same data.

28. Construct a **double bar graph** based on the following table.

Jeff	Peter	John	Mary
50	95	85	80
80	97	79	80

29. The following table shows the number of pets treated in one week at the local veterinarian clinic. Construct a **bar graph** to display this information. Be sure to label properly.

Dogs	Cats	Ferrets	Birds	Hamsters	Lizards
17	12	4	5	8	2

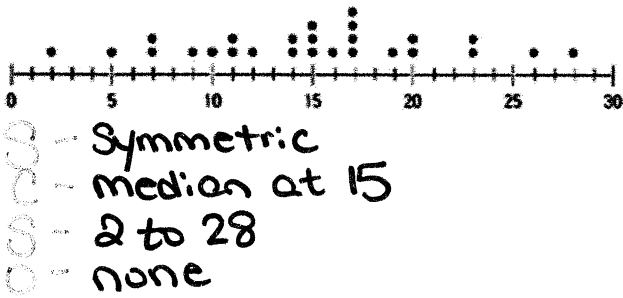
30. Construct a **PARETO CHART** using the same data.

31. The following table shows the amount of rainfall for the following number of hours. Make a **time series graph**.

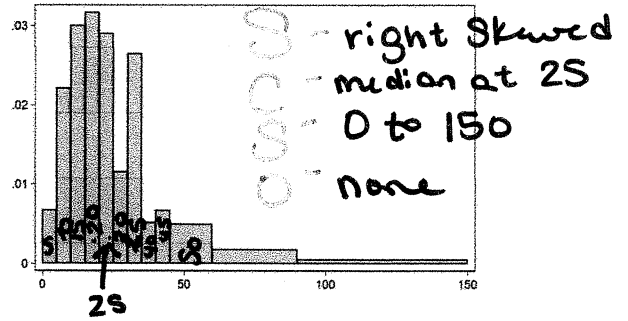
Rainfall (mL)	Time (hr)
5	1
2	2
12	3
7	4
4	5
8	6
2	7
1	8
6	9
3	10

Overall Pattern—Describe the SCSO of each of these graphical displays.

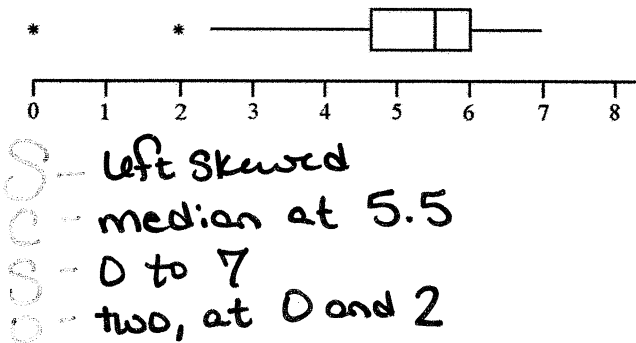
32.



36.



33.

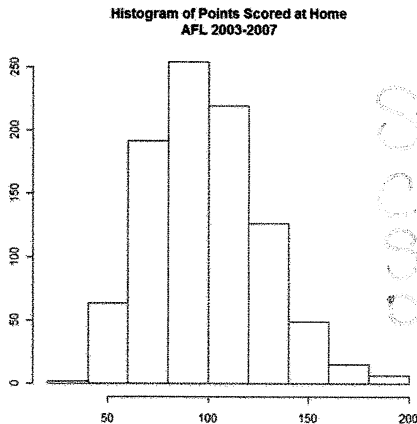


37.

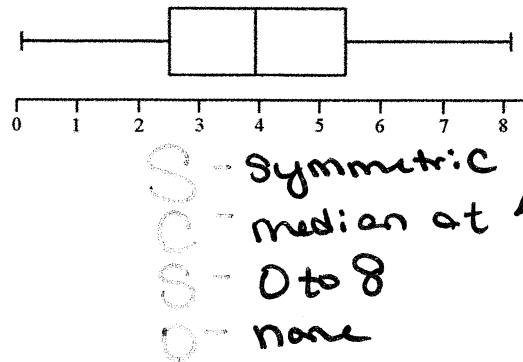
Stem	Leaf
1	0, 8, 9
2	
3	0, 3, 6, 6, 7, 8, 9, 9
4	1, 1, 8, 9
5	0, 1, 1, 2, 3, 6, 7, 7
6	0, 1

S - bimodal
 C - median at 41, 48 or 49
 S - 10 to 61
 O - none

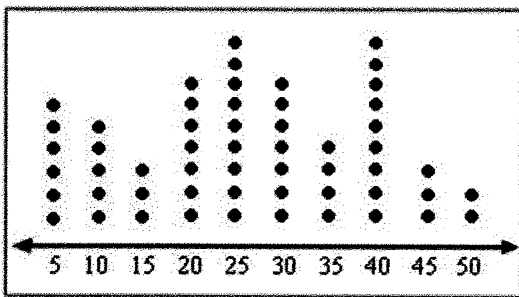
34.



38.



35.



39.

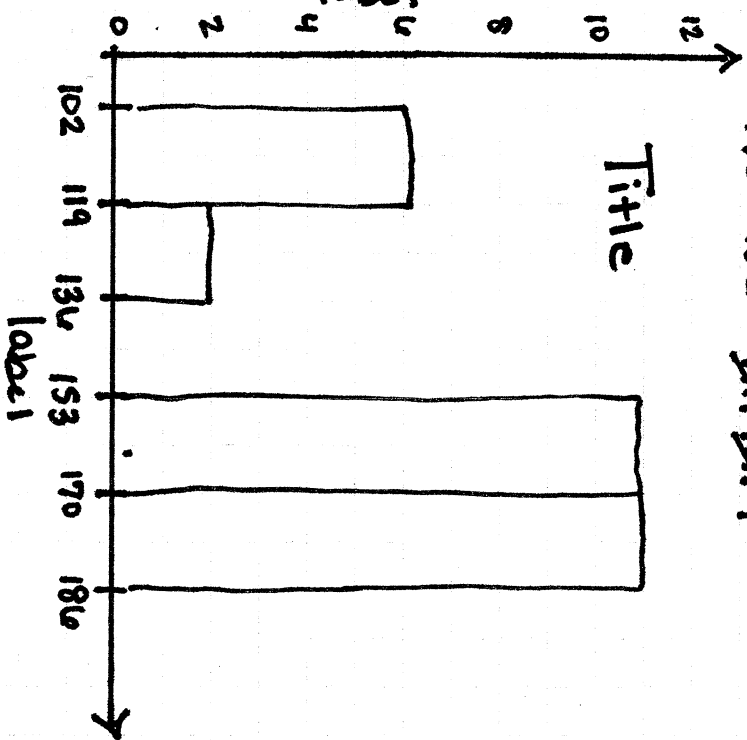
2	
3	3 6 6 8 9
4	0 1 3 4 7
5	5 8
6	6
7	
8	
9	
10	
11	6
12	7

S - right skewed
 C - median at 41, 43, 44
 S - 33 to 127
 O - yes, 116 and 127

width = $\frac{186-102}{5} = 16.8 = \boxed{17}$

7.

102 - 118	11	11
119 - 135	11	11
136 - 152	11	11
153 - 169	11	11
170 - 186	11	11

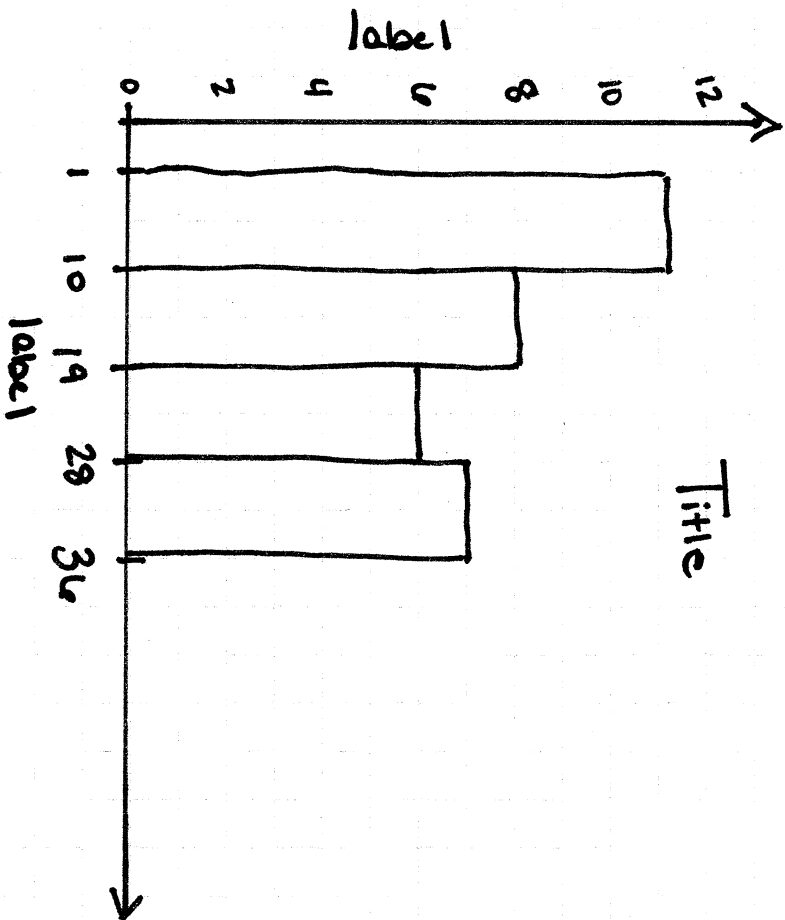


- S - left skewed (bimodal - ok)
- C - median in 153 - 170
- S - 102 to 186
- D - none

width = $\frac{34-1}{4} = 8.25 = \boxed{9}$

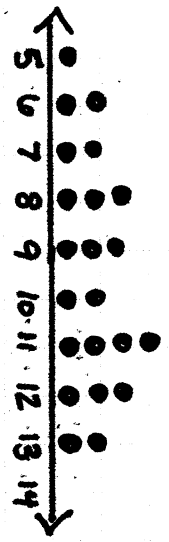
8.

1 - 9	11	11
10 - 18	11	11
19 - 27	11	11
28 - 36	11	11



- S - right skewed
- C - median in 10 - 19
- S - 1 to 36
- D - none

19.



- S - left skewed
- C - 9 or 10
- S - 5 to 13
- O - none

20.

Duplicate - SKIP!

21.

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

- S - right skewed
- C - 56 or 58
- S - 40 to 79
- O - none

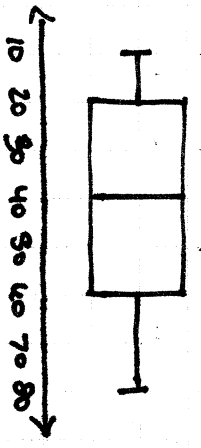
22.

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

- S - symmetric (roughly)
- C - 35 or 36
- S - 19 to 73
- O - yes, 73

23.

- ① 10
- ② 20
- ③ 40
- ④ 60
- ⑤ 80



- S - symmetric
- C - 40
- S - 10 to 80
- O - none

QAR: 40

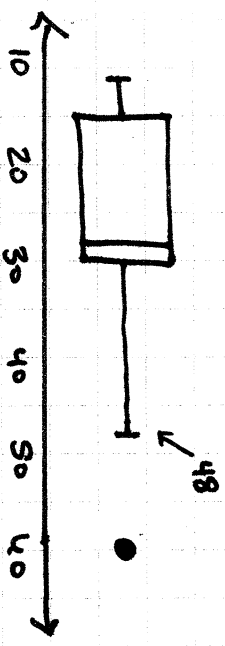
Outliers: upper: lower:

120 none

-40 none

24.

- ① 11
- ② 15
- ③ 27
- ④ 30
- ⑤ 60



- S - right skewed
- C - 27
- S - 11 to 60
- D - yes, 60

QAR: 15

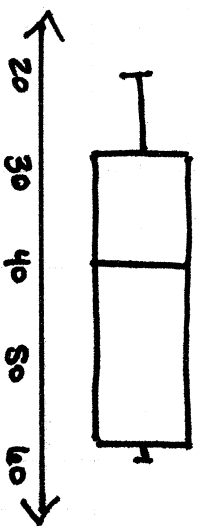
Outliers: upper: lower:

52.5 60

-7.5 none

25.

- ① 20
- ② 27
- ③ 40
- ④ 59
- ⑤ 60

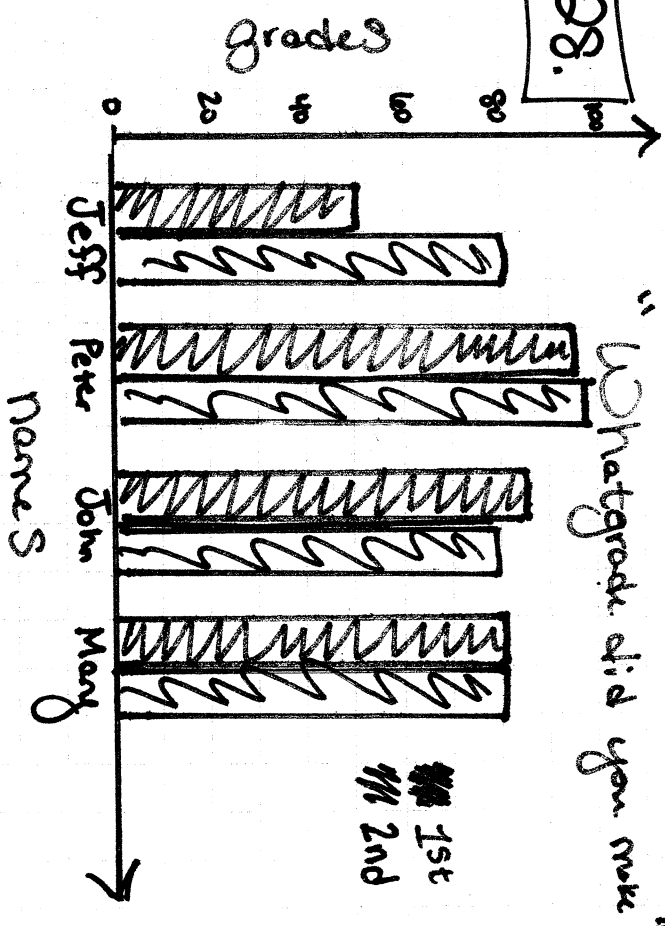


S - left skewed
 C - 40
 S - 20 to 60
 O - none

IAE: 32

Outliers: upper 107 none
 lower -21 none

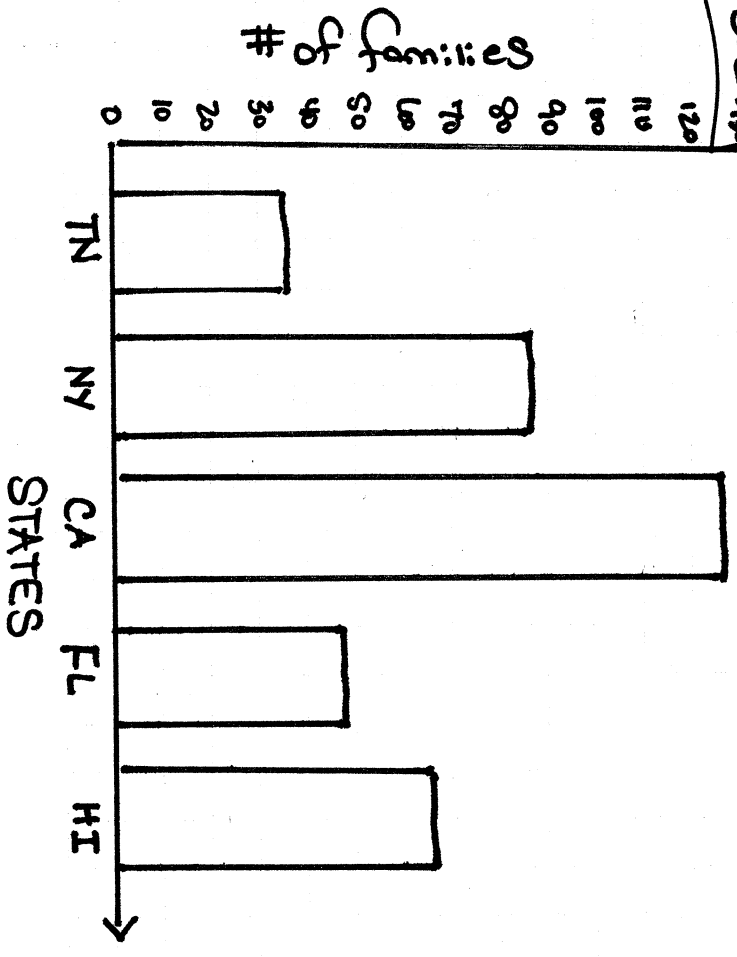
28.



"What grade did you make"

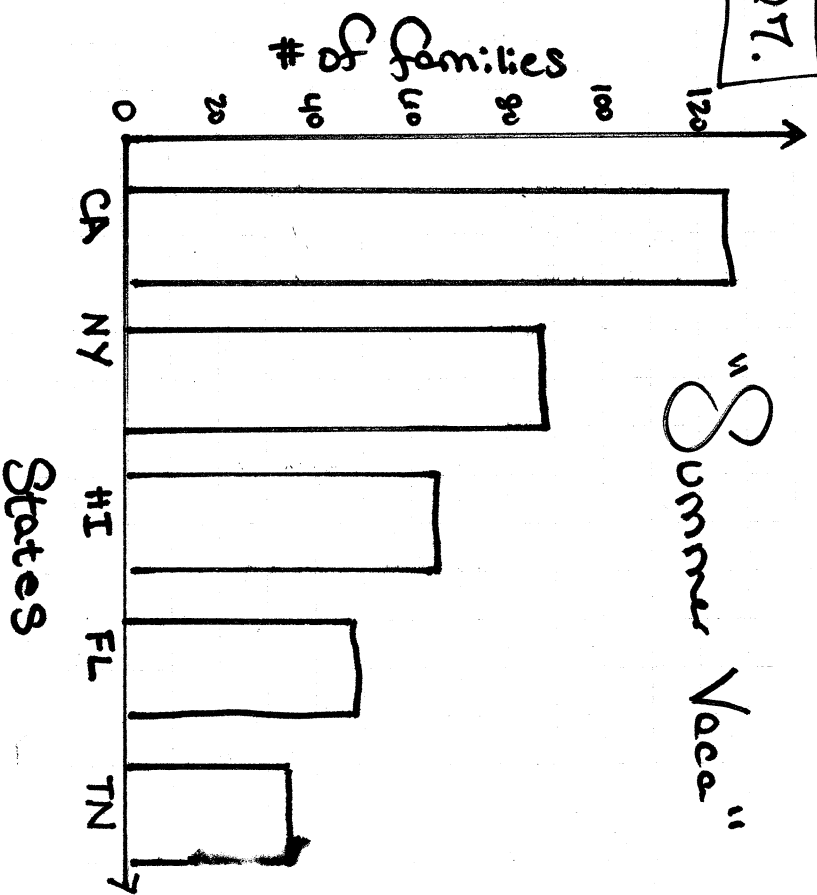
26. 120

"Summer Vaca"



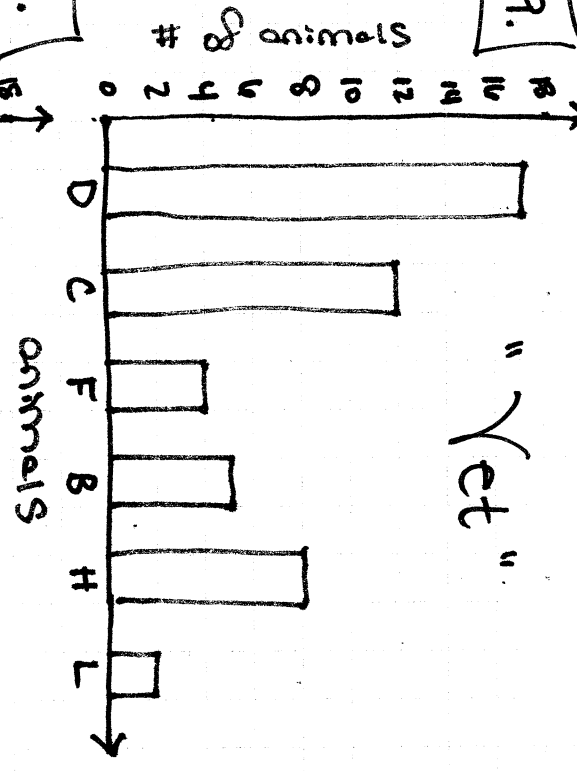
27.

"Summer Vaca"

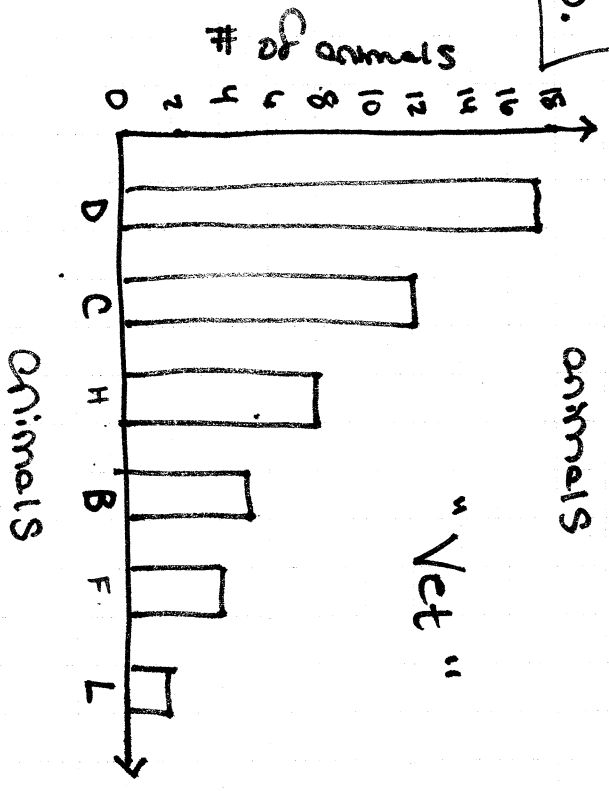


89.

30.



"Yet"



"Yet"

31.

