

Algebra 1B

7.5 Frequency Tables and Histograms

HOMEWORK

- 1) Using the data below, complete the frequency table.

DATA: 30, 32, 11, 14, 40, 37, 16, 26, 12, 33, 13, 19, 38, 12, 28, 15, 39, 11, 37, 17, 27, 14, 3

Number	Tally	Frequency
11-15		4
16-20		4
21-25		0
26-30		4
31-35		2
36-40		4

- 2) The test scores for 10 students in Ms. Sampson's homeroom were 61, 67, 81, 83, 87, 88, 89, 90, 98, and 100. Which frequency table is accurate for this set of data?

A)

Interval	Frequency
61-70	2
71-80	2
81-90	8
91-100	10

Interval	Frequency
61-70	2
71-80	0
81-90	6
91-100	2

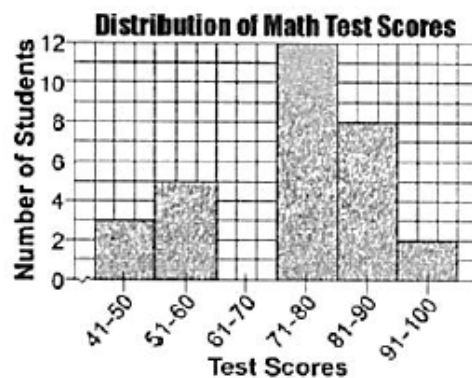
C)

Interval	Frequency
61-70	2
71-80	2
81-90	7
91-100	10

D)

Interval	Frequency
61-70	2
71-80	0
81-90	8
91-100	10

- 3) The graph below shows the distribution of scores of 30 students on a mathematics test.



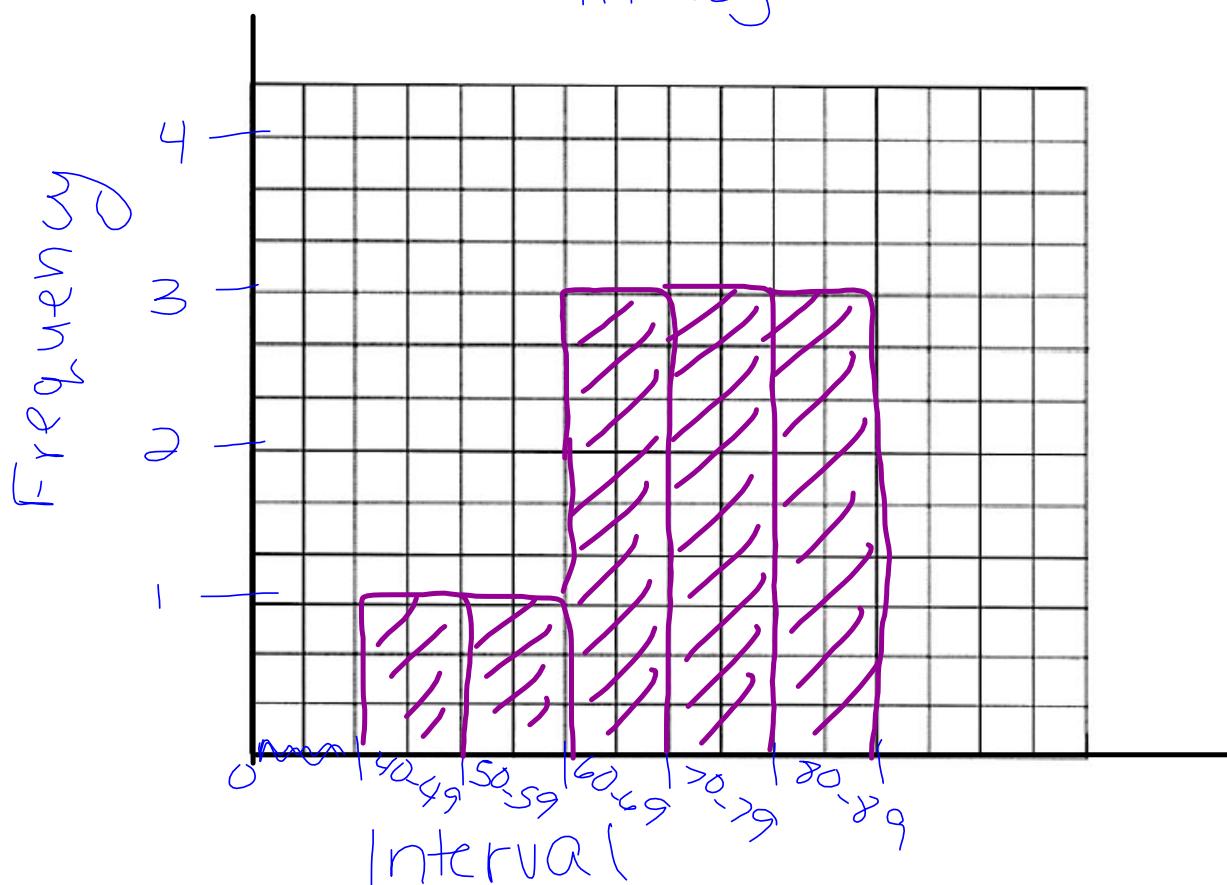
Complete the frequency table below using the data in the frequency histogram shown.

Test Scores	Frequency
91-100	2
81-90	8
71-80	12
61-70	0
51-60	5
41-50	3

- 4) The scores on a mathematics test were 70, 55, 61, 80, 85, 72, 65, 40, 74, 68, and 84. Complete the accompanying table, and use the table to construct a frequency histogram for these scores.

Score	Tally	Frequency
40-49		1
50-59		1
60-69		3
70-79		3
80-89		3

Histogram



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Date:

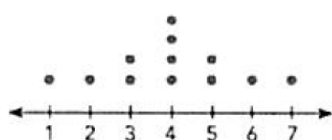
7.6 Dot Plots

Dot plots: A plot of each data value on a scale or number line.

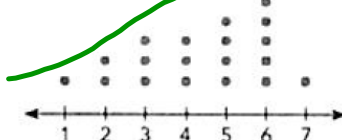
Learn

Identifying the shape of a set of data.

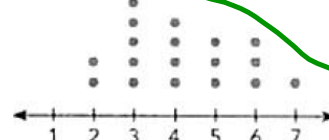
The shape of a dot plot can be either **symmetrical** or **skewed**.



Most of the data is near the center of the range. The shape is symmetrical.



The dot plot has a "tail" on the left. The shape is left-skewed.



The dot plot has a "tail" on the right. The shape is right-skewed.

The **mean** and the **median** of the distribution are numerical summaries of the center of a data distribution.

When the distribution is nearly **symmetrical**, the mean and the median of the distribution are approximately equal. When the distribution is not symmetrical (often described as **skewed**), the mean and the median are not the same.

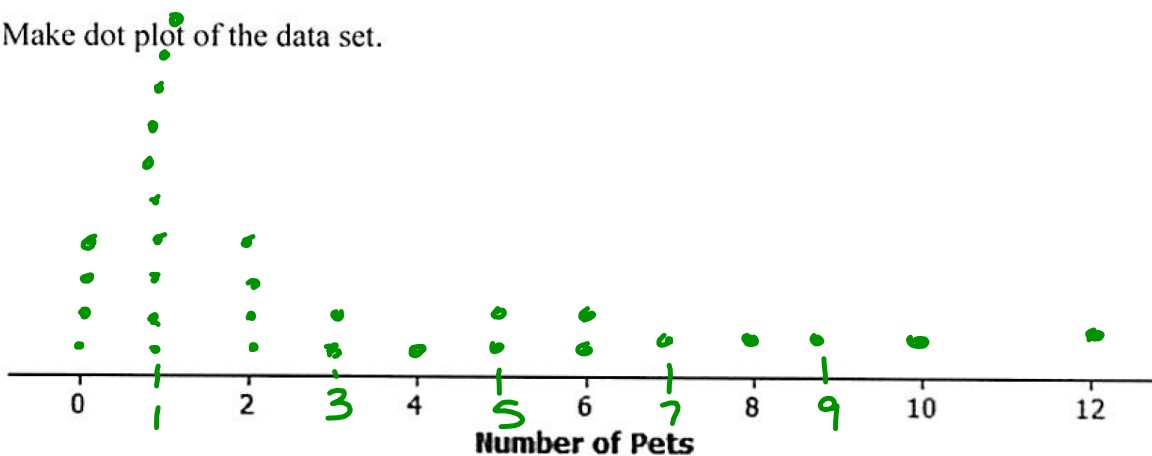
* For symmetrical distributions, the mean is an appropriate choice for describing a typical value for the distribution. For skewed data distributions, the median is a better description of a typical value.

Example 1*Data Set 1: Pet owners*

Students from River City High School were randomly selected and asked, "How many pets do you currently own?" The results are recorded below:

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

Make dot plot of the data set.



a) Describe the distribution of the number of pets owned by students at River City HS.

Skewed to the right

b) Calculate the mean number of pets owned by the 30 students from River City High School. Calculate the median number of pets owned by the thirty students.

Mean: 3.2 Median: 2

c) What do you think is a typical number of pets for students from River City High School? Explain how you made your estimate.

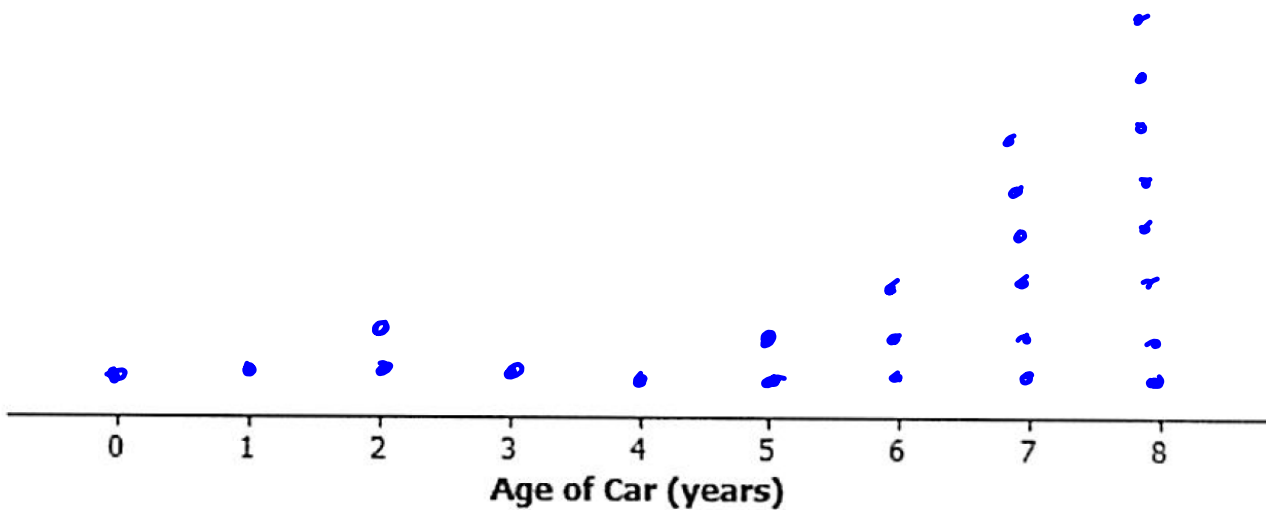
Since the data is skewed to the right the median is the best estimate. A typical number of pets for students is 2.

Try-It!*Data Set 2: Age of cars*

Twenty-five car owners were asked the age of their cars in years.
The results are recorded below:

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

Make dot plot of the data set.



a. Describe the distribution of the age of cars.

Skewed Left

b. What is the mean age of the twenty-five cars? What is the median age? Why are the mean and the median different?

mean: 5.74 median: 7

They are different because the data is skewed

c. What number would you use as an estimate of the typical age of a car for the twenty-five car owners? Explain your answer.

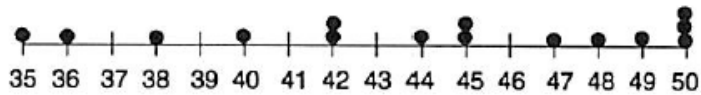
Since the data is skewed to the left the median is the best estimate. A typical age of a car for these car owners is 7 years.

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7.6 Dot Plots

HOMEWORK

The following dot plot represents scores on a math project in Mr. Jones' Geometry class.



1. How many data points are in this dot plot?

15 points

2. Determine the mean of the data.

Approx. 44.06

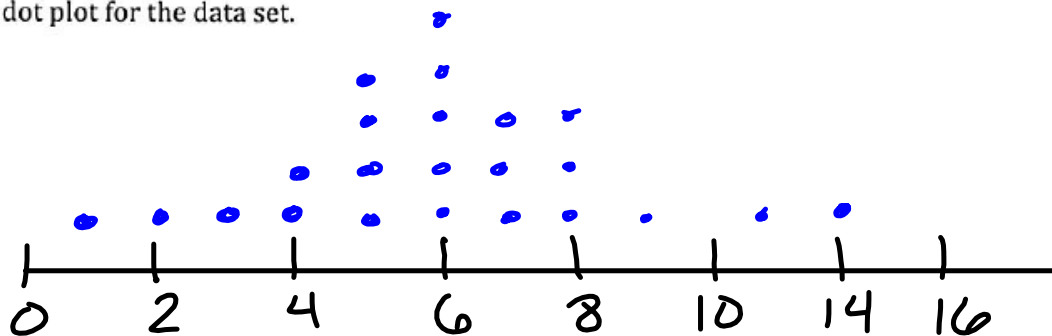
3. Determine the median of the data.

45

Nathan asked his classmates to estimate the number of hours they spend doing homework each week. The following data shows the results of his survey.

9, 4, 8, 2, 7, 3, 5, 6, 1, 4, 7, 6, 8, 5, 6, 5, 6, 7, 11, 14, 6

4. Make a dot plot for the data set.



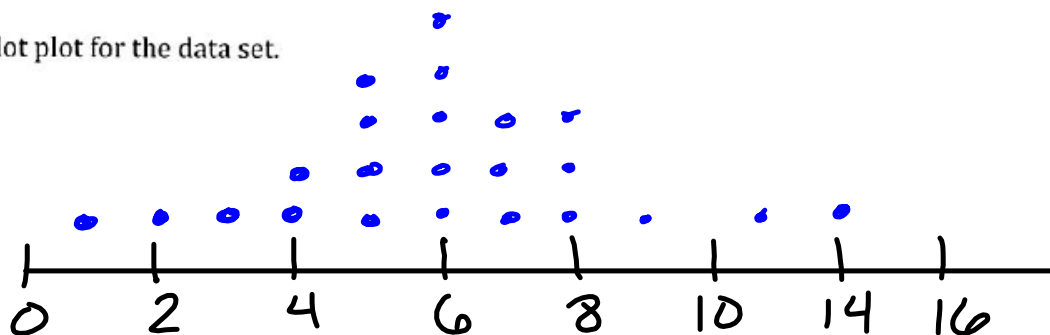
5. Determine the mode of the data.

6

Nathan asked his classmates to estimate the number of hours they spend doing homework each week. The following data shows the results of his survey.

9, 4, 8, 2, 7, 3, 5, 6, 1, 4, 7, 6, 8, 5, 6, 5, 6, 7, 11, 14, 6

6. Make a dot plot for the data set.



7. Determine the range of the data.

largest - smallest

$$14 - 1 = 13$$

8. Determine the mean and median of the data set. Which measure of central tendency best describes the data and why?

$$\text{mean} = 6.19$$

$$\text{median} = 6$$

The mean because the data is symmetrical.