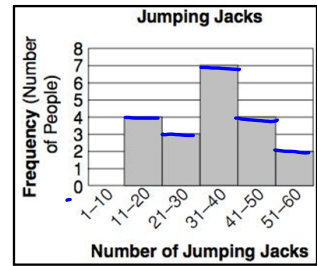


Interpreting Histograms

Example 1

- a. How many total people were surveyed?
20
- b. How many intervals are there?
6
- c. How large is each interval?
10



- d. How many of the people who are surveyed can do more than 40 jumping jacks?

6

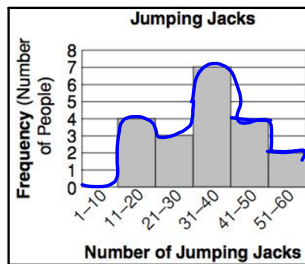
- e. What percent of people in the study are able to do more than 40 jumping jacks?

$$\frac{6}{20} = \frac{x}{100} = 30\%$$

- f. What percent of people can do anywhere between 0-20 jumping jacks?

$$\frac{4}{20} = \frac{x}{100} = 20\%$$

- g. What kind of distribution does this histogram have?



Example 2 - Chocolate Candies in Trail Mix

~~50~~ ~~42~~ ~~19~~ ~~45~~ ~~68~~ ~~32~~ ~~67~~ ~~11~~ ~~61~~ ~~31~~
~~39~~ ~~62~~ ~~64~~ ~~49~~ ~~55~~ ~~51~~ ~~33~~ ~~27~~ ~~96~~ ~~64~~

Interval	Tally	# of Values
1-20		3
21-40		4
41-60		6
61-80		6
81-100		1

- a. How many bags of trail mix were surveyed?

20

- b. How many intervals are there?

5

- c. How large is each interval?

20

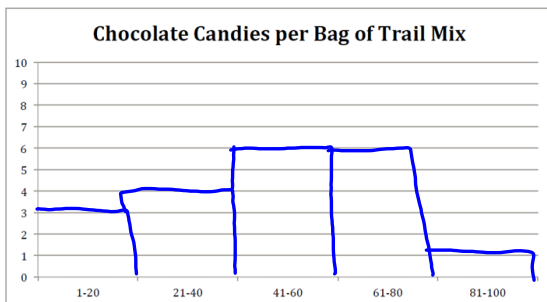
- d. What percent of the trail mix bags had over 60 chocolate candies?

$$\frac{7}{20} = 35\%$$

- e. What percent of the trail mix bags had between 80 and 100 chocolate candies?

$$\frac{1}{20} = 5\%$$

- f. What kind of distribution does this histogram have?



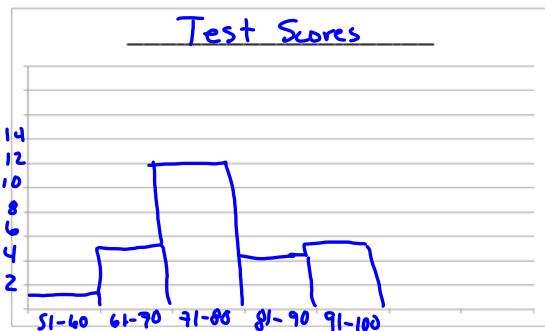
Example 3 - Test Scores out of 100

92 84 95 77 74 80 95 70 66
 73 68 90 78 64 72 78 76 65
 59 71 77 92 91 89 74 76 90

What is the least? **59**
 What is the greatest? **95**

What size interval should we use? 5's? 10's? Something else?
10's

Interval	Tally	# of Values
51-60		1
61-70		5
71-80		12
81-90		4
91-100		5



- How many test scores were collected?
27
- How many intervals did you choose to use?
5
- How large is each interval? Why did you choose this size interval?
10
- What percent of the class got a B (80%) or better?
 $\frac{9}{27} = 33\frac{1}{3}\%$
- What kind of distribution does this histogram have?
- Was the test too easy, too hard, or just right? Explain.

Making a Frequency Table

The numbers of students enrolled in Biology classes at a NC State are given below. Use the data to make a frequency table with intervals.

12, 22, 18, 9, 25, 31, 28, 19, 22, 27, 32, 14

Step 1: Identify the least and greatest values.

Least:

Greatest:

Step 2 Divide the data into _____ intervals.

For this data set, use an interval of 10.

~~12~~, 22, ~~18~~, ~~9~~, 25, 31, 28, ~~19~~, 22, 27, 32, ~~14~~

Step 3 List the intervals in the first column of the table. Count the number of data values in each interval and list the count in the last column.

Number Enrolled	Frequency
1 - 10	1
11 - 20	4
21 - 30	5
31 - 40	2

Making a Histogram

Step 4: Label the _____, and _____ your graph.

Step 5: Fill in each interval so that it is the appropriate height from your frequency chart.

All bars should be the same width and the bars should touch but not overlap.

Interval	Frequency
1-10	
11-20	
21-30	
31-40	

REMEMBER!!

- All bars should be the same width. The bars should touch, but not overlap.
- The x and y axes should be labeled, and it should have a title.



Have out homework(HW)

Warm up:

Find 5 number Summary + make a box plot with the following numbers:

74, 85, 42, 71, 80, 69, 99, 66, 76, 38, 73

~~38, 42, 66, 71, 73, 74, 76, 85, 99~~

$Q2 = 73$
 $Q1 = 66$
 $Q3 = 80$
 min = 38
 max = 99

$Q3 - Q1 =$
 $80 - 66 = 14 \times 1.5$

$66 - 21 = 45$
 $80 + 21 = 101$

(21)

