Unit: Data and Statistics
Student Handout 6

Name _____

Date _____ Pd _____

HISTOGRAMS

HISTOGRAMS

- Histograms show data in _____ or ranges.
- They are similar to bar graphs, but the bars are not spaced apart. They are similar to dot plots because they represent the overall _____ and _____ of the data.

Ex: _____

Data from the National ACT Exam is shown in the histogram at the right.

a. How many scores were included in the data set?

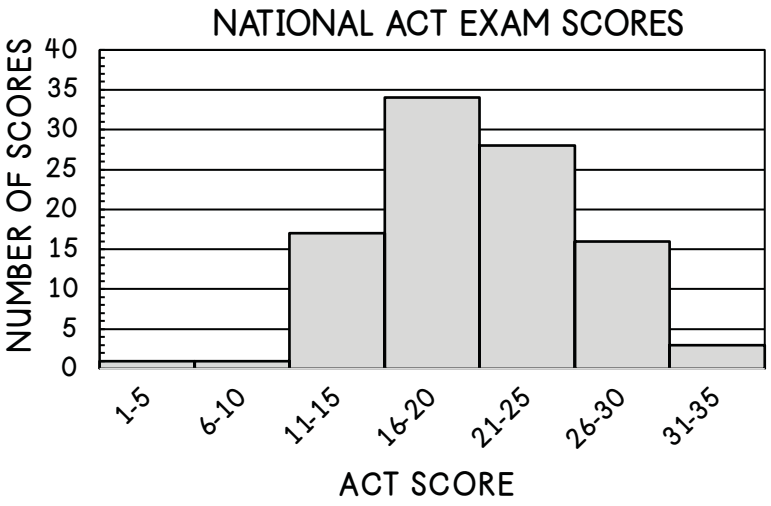
b. List the number of scores for each range:

1-5: _____ 21-25: _____

6-10: _____ 26-30: _____

11-15: _____ 31-35: _____

16-20: _____



1. Which range of scores represents 17% of the data?	2. What percent of the scores are included in the 21-25 range?
3. What two ACT score ranges make up more than 60% of the sample?	4. The histogram is symmetrical. What does this tell you about the median and the mean? In which interval would you predict the mean to be found?

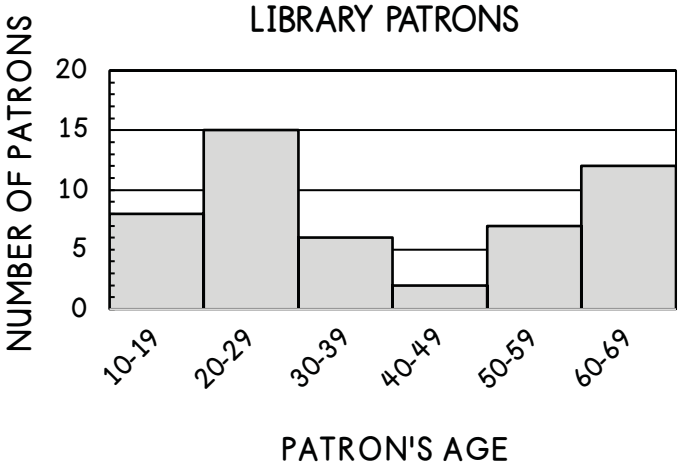
5. Label each of the statements below as true or false. Correct any false statements.

_____ a. The number of scores between 1-5 and 26-30 is equal to the number of scores between 11-15.

_____ b. The number of scores between 16-20 is double that of 11-15.

_____ c. There are an equal number of scores between 11-15 and 26-30.

The local library surveys its patrons based on their age. Use the histogram below to answer questions 6-9.



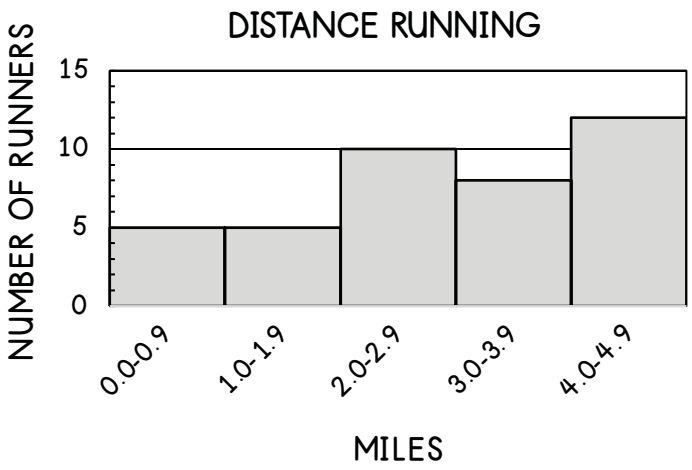
6. Determine the total number of library patrons surveyed.

7. How many library patrons are younger than 30?

8. Based on the information in the graph, which two age ranges are responsible for exactly 40% of the patrons?

9. Based on the information in the graph, 30% of the library patrons are in which age range?

A group of runners chart their distance total for the week. Use the histogram below to answer questions 10-12.



10. How many runners run between 3.0-4.9 miles each week?

11. How many runners run less than 4.0 miles each week?

12. Which of the following statements best represents the data above?

A. Twenty-five percent of runners surveyed run 4.0-4.9 miles each week.

B. One-third of runners surveyed run 2.0-2.9 miles each week.

C. One-fifth of runners run 3.0-3.9 miles each week.

D. The number of runners surveyed who run less than 1.0 mile is equal to the number of runners surveyed who run 3.0-3.9 miles each week.

Summarize today's lesson:

Unit: Data and Statistics
Homework 6

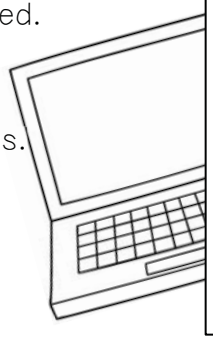
Name _____

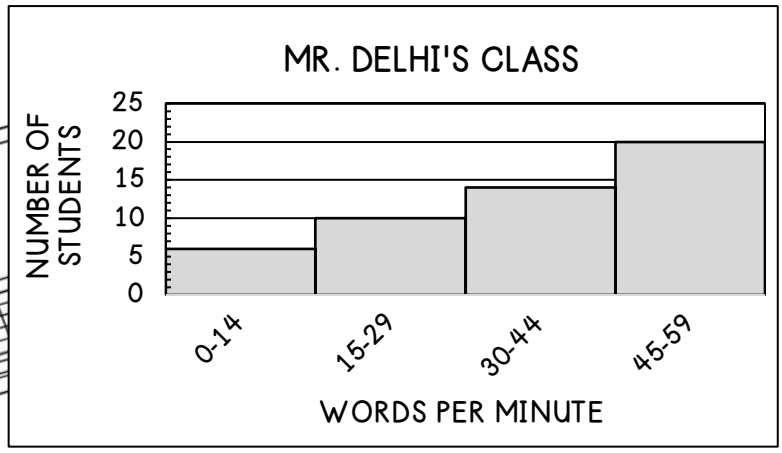
Date _____ Pd_____

HISTOGRAMS

In computer class, students take a typing test to determine their speed.

The histogram at the right shows the scores of the students in class.





1. Label each of the statements below as true or false. Correct any false statements.

_____ a. A total of 40 students can type from 0-59 words per minute.

_____ b. The number of students who typed 45-59 words per minute is equal to the number of students who typed 0-29.

_____ c. The number of students who typed 30-44 words per minute accounted for 28% of the students.

_____ d. Less than 15% of the students type 0-14 words per minute.

2. Based on the information above, what percent of students type less than 30 words per minute?

3. Forty percent of the students were able to type at which speed interval?

4. Describe the distribution of the data. Estimate in which range the median of the data lies.

_____

_____

_____

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HISTOGRAMS

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- Histograms show data in _____intervals_____ or ranges.
- They are similar to bar graphs, but the bars are not spaced apart. They are similar to dot plots because they represent the overall ____spread____ and _____shape_____ of the data.

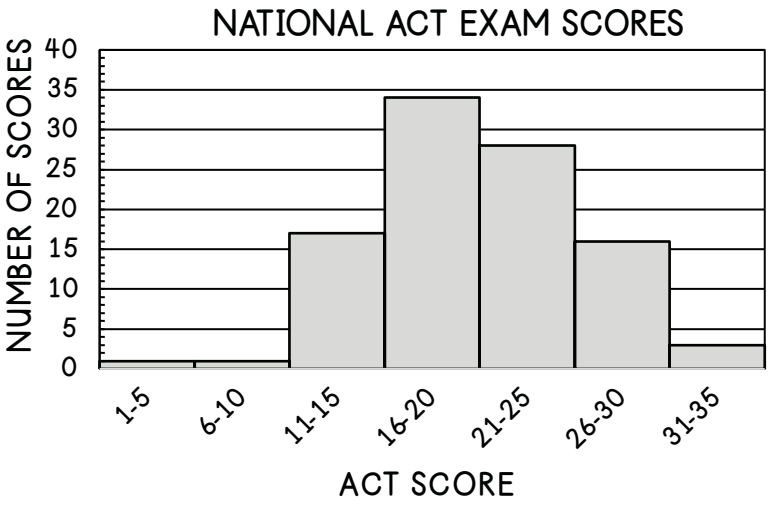
Ex: _____decades, age ranges_____

Data from the National ACT Exam is shown in the histogram at the right.

a. How many scores were included in the data set? 100

b. List the number of scores for each range:

1-5:	1	21-25:	28
6-10:	1	26-30:	16
11-15:	17	31-35:	3
16-20:	34		



1. Which range of scores represents 17% of the data?

ACT scores 11-15

2. What percent of the scores are included in the 21-25 range?

28%

3. What two ACT score ranges make up more than 60% of the sample?

ACT score ranges 16-20 & 21-25

4. The histogram is symmetrical. What does this tell you about the median and the mean? In which interval would you predict the mean to be found?

The median and mean are close together. The mean is likely in the 16-20 range.

5. Label each of the statements below as true or false. Correct any false statements.

true a. The number of scores between 1-5 and 26-30 is equal to the number of scores between 11-15.

true b. The number of scores between 16-20 is double that of 11-15.

false c. There are an equal number of scores between 11-15 and 26-30. There are an equal number of scores between 1-5 and 6-10.

The local library surveys its patrons based on their age. Use the histogram below to answer questions 6-9.

6. Determine the total number of library patrons surveyed.

50 patrons

7. How many library patrons are younger than 30?

23 patrons

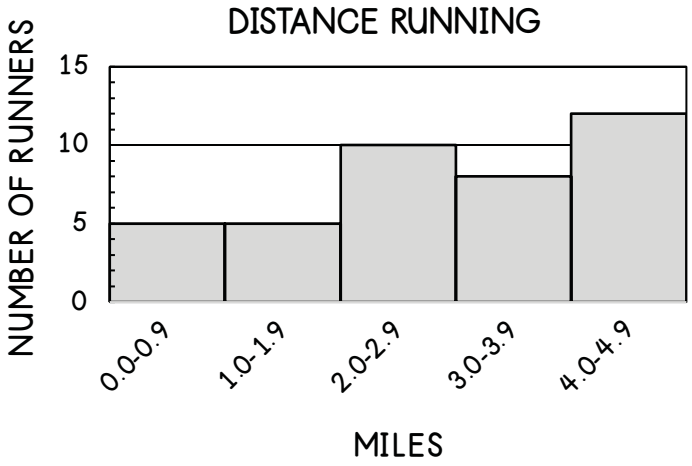
8. Based on the information in the graph, which two age ranges are responsible for exactly 40% of the patrons?

10-19 and 60-69

9. Based on the information in the graph, 30% of the library patrons are in which age range?

20-29

A group of runners chart their distance total for the week. Use the histogram below to answer questions 10-12.



10. How many runners run between 3.0-4.9 miles each week?

20 runners

11. How many runners run less than 4.0 miles each week?

28 runners

12. Which of the following statements best represents the data above?

A. Twenty-five percent of runners surveyed run 4.0-4.9 miles each week.

B. One-third of runners surveyed run 2.0-2.9 miles each week.

C. One-fifth of runners run 3.0-3.9 miles each week.

D. The number of runners surveyed who run less than 1.0 mile is equal to the number of runners surveyed who run 3.0-3.9 miles each week.

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In computer class, students take a typing test to determine their speed.

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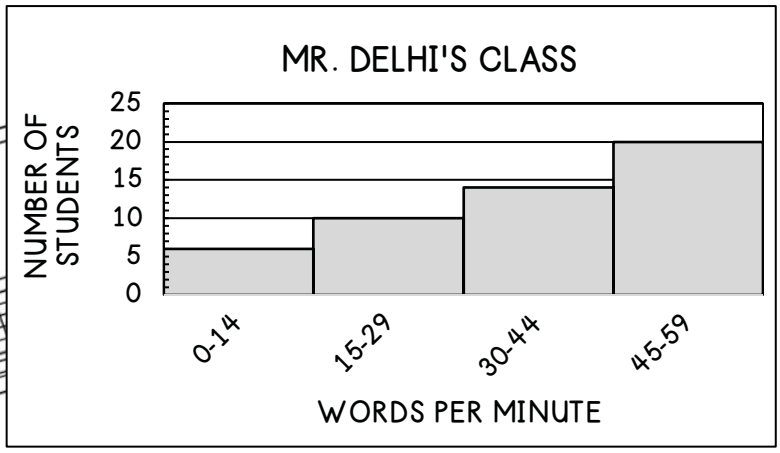

1. Label each of the statements below as true or false. Correct any false statements.

false a. A total of 40 students can type from 0-59 words per minute.

A total of 50 students can type from 0-59 words per minute.

false b. The number of students who typed 45-59 words per minute is equal to the number of students who typed 0-29.

The number of students who typed 45-59 wpm was 20, while only 16 students typed 0-29 wpm.

true c. The number of students who typed 30-44 words per minute accounted for 28% of the students.

true d. Less than 15% of the students type 0-14 words per minute.

2. Based on the information above, what percent of students type less than 30 words per minute?

32%

3. Forty percent of the students were able to type at which speed interval?

45-59

4. Describe the distribution of the data. Estimate in which range the median of the data lies.

The data is skewed left. The mean and median will be towards the right of the middle part of the data.