

Name key  
8A: Algebra 1

Date \_\_\_\_\_  
Period \_\_\_\_\_

Homework

1) The following data are exam grades of 10 students in a math class.

Start counting from the lowest interval

a) Which interval contains the lower quartile?

$25\% \times 10 = 2.5 \rightarrow 3$

77-84

b) Which interval contains the upper quartile?

$75\% \times 10 \rightarrow 7.5 \rightarrow 8$

85-92

c) If students who received at least an 85% on this exam received a "math star" pencil, what percent of the students received a pencil?

$\frac{5}{10} = .5$  50%

d) Which interval contains the 30<sup>th</sup> percentile?

$30\% \times 10 = 3$

77-84

Exam grade

| Interval | Frequency |
|----------|-----------|
| 69-76    | 1         |
| 77-84    | 4         |
| 85-92    | 4         |
| 93-100   | 1         |

$\Sigma f = 10$

2) The following data represent the heights (in inches) of 14 students in Mrs. Biscardi's math class:

65, 63, 68, 59, 74, 59, 68, 61, 64, 60, 69, 72, 55, 64

Start counting from the lowest interval

a) Which interval contains median?

$50\% \times 14 = 7$

63-66

b) Which interval contains the upper quartile?

$75\% \times 14 = 10.5 \rightarrow 11$

67-70

c) Which interval contains the lower quartile?

$25\% \times 14 = 3.5 \rightarrow 4$

59-62

d) What percent of the students are shorter than 5 feet 7 inches?

$\frac{9}{14} = .6428571429$   
 $64\frac{2}{7}\%$

67 inches  
Don't count 67 inches

inches

| Interval | Frequency |
|----------|-----------|
| 55-58    | 1         |
| 59-62    | 4         |
| 63-66    | 4         |
| 67-70    | 3         |
| 71-74    | 2         |

$\Sigma f = 14$

3) College students spent the following amounts of money on textbooks for one semester. \$101, \$107, \$121, \$90, \$89, \$101, \$98, \$110, \$115, \$85, \$95, \$109, \$109, \$110, \$109

a) Complete Table and construct a Cumulative Frequency Histogram.

| Cost Interval | Tally | Frequency | Cumulative Interval | Cumulative Frequency |
|---------------|-------|-----------|---------------------|----------------------|
| 80-89         | II    | 2         | 80-89               | 2                    |
| 90-99         | III   | 3         | 80-99               | 5                    |
| 100-109       | III I | 6         | 80-109              | 11                   |
| 110-119       | III   | 3         | 80-119              | 14                   |
| 120-129       | I     | 1         | 80-129              | 15                   |

Regular frequency! Start counting from the lowest! RR

b) Find the interval that contains the lower quartile.

$25\% \cdot 15 = 3.75 \rightarrow 4$

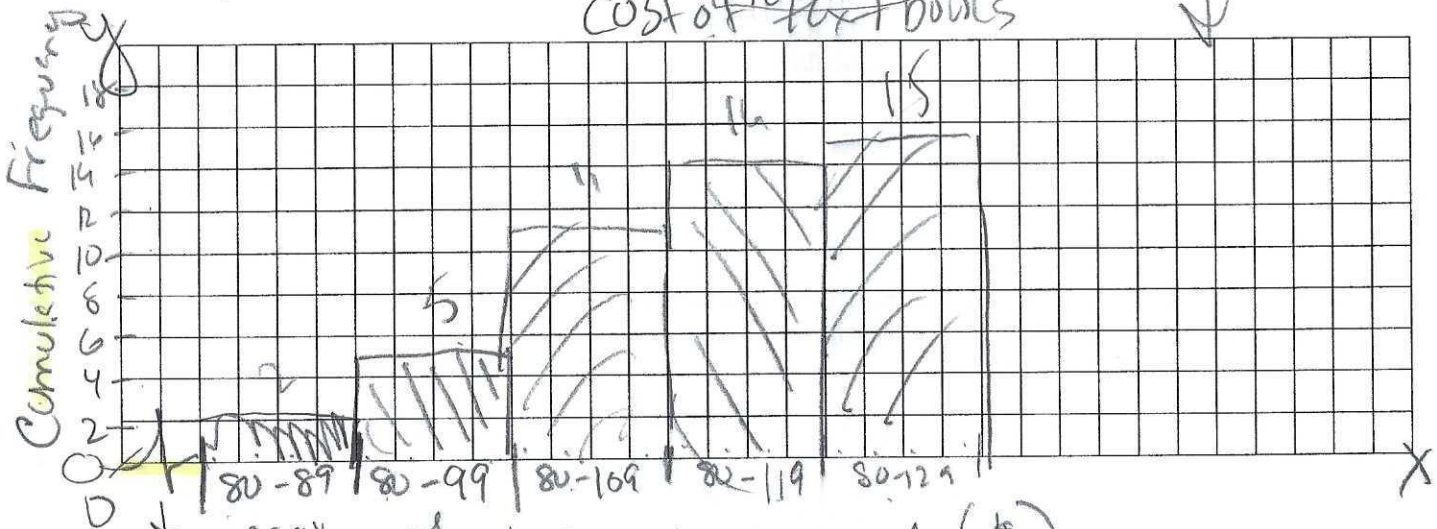
c) Find the interval that contains the median quartile.

$50\% \cdot 15 = 7.5 \rightarrow 8$

d) Find the interval that contains the upper quartile.

$75\% \cdot 15 = 11.25 \rightarrow 12$

COST of Textbooks



use a break b/c the interval doesn't start at 0 Cumulative Interval (\$)

4) The table on the left shows the cumulative frequency of the ages of 35 people standing in a cafeteria line. Based on the data given in the cumulative frequency table, complete the frequency table on the right.

| Interval | Cumulative Frequency |
|----------|----------------------|
| 10-19    | 2                    |
| 10-29    | 17                   |
| 10-39    | 27                   |
| 10-49    | 32                   |
| 10-59    | 32                   |
| 10-69    | 35                   |

| Interval | Frequency |
|----------|-----------|
| 10-19    | 2         |
| 20-29    | 5         |
| 30-39    | 10        |
| 40-49    | 5         |
| 50-59    | 0         |
| 60-69    | 3         |

$F \rightarrow CF = +$

$CF \rightarrow F = -$