Enrich

Median and Mean of Grouped Data

To find the median, add a column for the cumulative frequency. This is the total of the frequencies up to and including the frequency in a given row.

The last number in the cumulative frequency column will equal the total number of data items. In this example, there are 75 data items. So the median will be the 38th item. The median age is in the interval 30–39.

To find the mean, multiply the frequency of each interval by the midpoint of the interval. Then divide by the total number of data items.

People Responding to Radio Station Survey		
Ages	Frequency	Cumulative Frequency
10–19	20	20
20–29	17	37
30–39	23	60
40–49	15	75

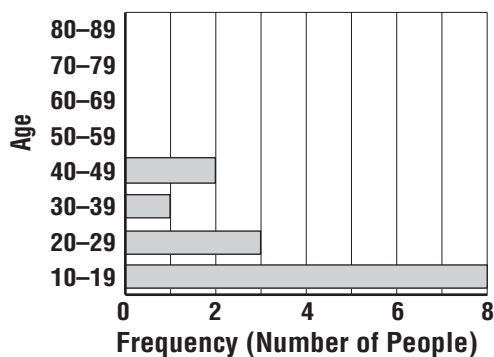$$\frac{(20 \times 14.5) + (17 \times 24.5) + (23 \times 34.5) + (15 \times 44.5)}{75} = 28.9$$

Find the interval for the median and the mean to the nearest tenth.

1. Add these data to the chart in the example: ages 50–59, 11 people; ages 60–69, 16 people; ages 70–79, 19 people; ages 80–89, 4 people.

2. People Who Prefer Talk Radio

Age	10–19	20–29	30–39	40–49	50–59	60–69	70–79	80–89
Frequency	4	10	14	5	6	5	4	2

3. People who listen to Radio While Doing Homework

4. People who listen to Radio While Driving to Work