

Review Exercise Set 30

Exercise 1: The number of students tutored each month for one year was recorded by the SLAC lab. For the 1999-2000 academic year, the results were 640, 535, 383, 85, 133, 454, 374, 355, 104, 291, 165, and 118. Calculate the mean and the median of the number of students tutored per month.

Exercise 2: A company has five different hourly wage rates for its employees: \$5.85, \$6.77, \$7.66, \$8.68, and \$9.85. Calculate the mean and median hourly wage rate.

Exercise 3: A student's test scores in their math course were: 78, 92, 65, 89, 95, and 83. Calculate the mean and median test score.

Exercise 4: Given the following data values calculate the mean and the median.

18, 17, 16, 17, 15, 19, 20, 19, 14, 17, and 17

Exercise 5: Given the following data values calculate the mean and the median.

15, 10, 8, 14, 11, 34, 45, 25, 87, 30, 22, 50, and 63

Review Exercise Set 30 Answer Key

Exercise 1: The number of students tutored each month for one year was recorded by the SLAC lab. For the 1999-2000 academic year, the results were 640, 535, 383, 85, 133, 454, 374, 355, 104, 291, 165, and 118. Calculate the mean and the median of the number of students tutored per month.

Mean:

$$\begin{aligned} & \frac{640 + 535 + 383 + 85 + 133 + 454 + 374 + 355 + 104 + 291 + 165 + 118}{12} \\ &= \frac{3637}{12} \\ &= 303.083 \end{aligned}$$

The mean number of students tutored per month was 303.

Median:

Arrange totals from smallest to largest

85, 104, 118, 133, 165, **291**, **355**, 374, 383, 454, 535, 640

Since there is an even number of monthly totals, the median would be the average of the middle two.

$$\frac{291 + 355}{2} = \frac{646}{2} = 323$$

The median number of students tutored per month was 323.

Exercise 2: A company has five different hourly wage rates for its employees: \$5.85, \$6.77, \$7.66, \$8.68, and \$9.85. Calculate the mean and median hourly wage rate.

Mean:

$$\begin{aligned} & \frac{\$5.85 + \$6.77 + \$7.66 + \$8.68 + \$9.85}{5} \\ &= \frac{\$38.81}{5} \\ &= \$7.762 \end{aligned}$$

The mean payrate is \$7.76.

Median:

Arrange totals from smallest to largest

\$5.85, \$6.77, **\$7.66**, \$8.68, \$9.85

Since there is an odd number of payrates, the median would be the middle payrate.

The median payrate is \$7.66.

Exercise 3: A student's test scores in their math course were: 78, 92, 65, 89, 95, and 83. Calculate the mean and median test score.

Mean:

$$\begin{aligned} & \frac{78 + 92 + 65 + 89 + 95 + 83}{6} \\ &= \frac{502}{6} \\ &= 83.6667 \end{aligned}$$

The student's mean test score is approximately 84.

Median:

Arrange totals from smallest to largest

65, 78, **83, 89**, 92, 95

Since there is an even number of test scores, the median would be the average of the middle two.

$$\begin{aligned} & \frac{83 + 89}{2} \\ &= \frac{172}{2} \\ &= 86 \end{aligned}$$

The student's median test score is 86.

Exercise 4: Given the following data values calculate the mean and the median.

18, 17, 16, 17, 15, 19, 20, 19, 14, 17, and 17

Mean:

$$\begin{aligned} & \frac{18+17+16+17+15+19+20+19+14+17+17}{11} \\ &= \frac{189}{11} \\ &= 17.1818 \end{aligned}$$

The mean data value is approximately 17.18.

Median:

Arrange totals from smallest to largest

14, 15, 16, 17, 17, **17**, 17, 18, 19, 19, 20

Since there is an odd number of data values, the median would be the middle one.

The median data value is 17.

Exercise 5: Given the following data values calculate the mean and the median.

15, 10, 8, 14, 11, 34, 45, 25, 87, 30, 22, 50, and 63

Mean:

$$\begin{aligned} & \frac{15+10+8+14+11+34+45+25+87+30+22+50+63}{13} \\ &= \frac{414}{13} \\ &= 31.846 \end{aligned}$$

The mean data value is approximately 31.85.

Median:

Arrange totals from smallest to largest

8, 10, 11, 14, 15, 22, **25**, 30, 34, 45, 50, 63, 87

Since there is an odd number of data values, the median would be the middle one.

The median data value is 25.