

Module 1 Challenge Problems

Problem 1 - KEY TERMS

Population - 100 families

Statistic - Average / mean of the Sample
$$= \frac{65 + 75 + 95}{3} = \$78.33$$

Parameter - Average Money Spent

Sample - Three families

Variable - Amount of Money Spent on School Uniforms

Data - \$65, \$75 and \$95

Module 2

Problem 2

First Quartile = $Q_1 = \frac{1}{4}N = \frac{1}{4} \times 65 = 16.25$

Second Quartile = Median = 50th percentile = $\frac{1}{2}N = \frac{1}{2} \times 65 = 32.5$

Third Quartile = $\frac{3}{4}N = \frac{3}{4} \times 65 = 48.75$

Interquartile range = $Q_3 - Q_1 = 48.75 - 16.25 = 32.5$

10th Percentile = $\frac{10}{100}N = \frac{10}{100} \times 65 = 6.5$

70th Percentile = $\frac{70}{100}N = \frac{70}{100} \times 65 = 45.5$

Module 3 Challenge Problems

Problem 1 (Part A)

Standard deviation - Can never be negative

Interquartile Range - Can sometimes be negative

Z Score - Sometimes can be negative since it can be below the mean

Part B.

The standard deviation of the weights of 1000 randomly selected people is larger than the standard deviation of the weights of 10 randomly selected cats.