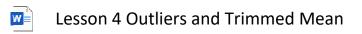
Lesson 4 Outliers and Trimmed Mean

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Lesson 4 Outliers and Trimmed Mean

Outlier: A value that is much larger or smaller than the other values of data. There could be 0, 1 or multiple outliers in a set of data.

Recalculated Mean: An average of a set of data that is found after removing the outlier(s).

Trimmed Mean: An average of a set of data that is found after removing the highest and lowest values. The same number of values must be removed from the top and bottom of the data.

Example 1

Determine the range and identify any outlier(s) in each set of data.

Essential 12 Statistics

Example 2 a.) Determine the recalculated mean of the data. $-16_{x} -14_{y} -7_{y} -29_{y} -34_{y} -18_{y} -21_{y} 18$ $-31_{y} -29_{y} -21_{y} -18_{y} -16_{y} -11_{y} -7_{y} 18$ $-31_{y} -29_{y} -21_{y} -18_{y} -16_{y} -11_{y} -7_{y} 18$ recalculated = -31 + (-24) + (-21) + (-18) + (-14) + (-1) $= -\frac{133}{7}$ b.) Determine the trimmed mean of the data. remove on equal number of values from top and bottom of the data $trimmed = -\frac{29_{y} + (-21) + (-18) + (-16) + (-11) + (-1)}{6}$ $= -\frac{102}{6}$ = -17

Example 2

Judges in a gymnastics competition gave the following scores to competitors.

8.5, 9.0, 6.9, 7.5, 7.0, 9.5, 10.0, 5.0, 8.0, 8.0, 7.5, 7.5, 6.8, 6.8 5.0, 6.8, 6.8, 6.9, 7.0, 7.5, 7.5, 7.5, 8.0, 8.0, 8.5, 9.0, 9.5, 10.0 a.)Determine the range.

> 10-0-5.0 5.0

Essential 12 Statistics

b.) Identify any outlier(s). 5.0 , 10.0

c.)Determine the trimmed mean of the data.

