**Quick Concepts Check Answer Key  
Exploring Microsoft Excel 2016, Chapter 8**

1. **When would you use SUMIFS instead of SUMIF?**

SUMIFS is used when a multi-conditional summary is required over a single conditional summary.

1. **When would you use RANK.AVG instead of RANK.EQ?**

Some statisticians consider RANK.AVG more accurate then RANK.EQ. Both return the statistical rank of a number in a range of numbers. The difference between the functions is when two equal numbers appear in the data set, RANK.AVG will average the two values to determine the rank.

1. **What is the difference between PERCENTRANK.INC versus PERCENTRANK.EXC?**

The PERCENTRANK.EXC and PERCENTRANK.INC functions are similar in that each returns a value’s rank as a percent. The PERCENTRANK.EXC function adheres to “best practices” in that a percent rank is between 0 and 1 because the .EXC descriptor *excludes* the 0 and 1.

1. **When would you use STDEV.S instead of STDEV.P?**

STDEV.S is used to calculate the standard deviation of a sample versus a population.

1. **Why would you use FREQUENCY instead of COUNTIF?**

FREQUENCY and COUNTIF return similar values. The difference is FREQUENCY can calculate as an ARRAY therefore completing multiple calculations in one function.

1. **What is keyboard command to complete the FREQUENCY function if working with an array of data?**

Ctrl+Shift+Enter.

1. **What is the difference between inferential statistics and descriptive statistics?**

Descriptive statistics describe the shape and spread of data. Inferential statistics are used to make conclusions about sample data when the population is too large to measure.

1. **What is the benefit of using the Analysis ToolPak over Excel functions?**

There are several methods to calculating statics in Excel. The benefit of the Analysis ToolPak is that it creates summary reports with minimum effort required.

1. **What is the difference between COVARIANCE and CORREL?**

COVARIANCE measures how two data sets change together over time. A positive covariance indicates a positive relationship, a negative value indicates an inverse relationship, and a 0 value indicates no relationship. CORREL, or correlation coefficient measures the strength of relationship between data sets. CORREL will return a value between 1 and -1.