# Competency Assessments

## Project 5-1: Use Statistical Functions to Analyze Game Wins and Losses

You work for Wingtip Toys and have been playing three new games each day to master them, hoping to demo the games in the retail store. You’ve been keeping track of your wins and losses in a worksheet. A “1” indicates a win, and a “0” indicates a loss.

**GET READY. Launch Excel if it is not already running.**

**1.** OPEN the ***05 Game Stats*** data file for this lesson.

**2.** In cell E3, type **=AVERAGE(B3:D3)** and press **Enter**.

**3.** Copy the formula in **E3** to **E4:E12**.

**4.** Click cell **G2**.

**5.** On the FORMULAS tab, in the Function Library group, click the **AutoSum** button arrow and select **Count Numbers**.

**6.** Click cell **B3** and drag the mouse pointer to cell **D12**.

**7.** Release the mouse and press **Enter** to accept the range B3:D12. The result, *30*, is the total number of times you played the games in 10 days.

**8.** In cell G3, type **=SUM(B3:D12)** and press **Enter.** The result, *17*, represents the total number of times you won the games.

**9.** In cell G4, type **=G2-G3** and press **Enter.** The result, *13,* represents the total number of times you lost the games.

**10.** On the FORMULAS tab, in the Formula Auditing group, click **Show Formulas**. The formulas appear in the worksheet.

**11.** Click the **Show Formulas** button again to turn off the display of formulas.

**12.** SAVE the workbook to your Lesson 5 folder as ***05 Game Stats Solution*** and then CLOSE the file.

**LEAVE Excel open to use in the next project.**

## Project 5-2: Create Formulas to Calculate Totals and Averages

An employee at Wingtip Toys has entered second quarter sales data into a worksheet. You will enter formulas to calculate monthly and quarterly totals and average sales.

**GET READY. Launch Excel if it is not already running.**

**1.** OPEN ***05 Wingtip Toys Sales*** from the data files for this lesson.

**2.** Click cell **B11**, type **=SUM(B4:B10)**, and press **Enter**.

**3.** Click cell **C11**. On the FORMULAS tab, in the Function Library group, click **Insert Function**.

**4.** In the Insert Function dialog box, select **SUM** and click **OK**.

**5.** In the Function Arguments dialog box, click **Collapse Dialog** and select **C4:C10**, if it’s not already entered.

**6.** Click the **Expand Dialog** button and click **OK** to close the dialog box.

**7.** Copy the formula from **C11** to **D11**.

**8.** Click cell **E4**. On the FORMULAS tab, in the Function Library group, click the **AutoSum** button. Press **Enter** to accept **B4:D4** as the cells to total.

**9.** Click cell **E5** and then in the Function Library group click **Insert Function**. In the Insert Function dialog box, **SUM** will be the default. Click **OK**.

**10.** The range B5:D5 should appear in the Number1 box in the Function Arguments dialog box. Click **OK** to close the dialog box.

**11.** Click cell **E5** and use the fill handle to copy the formula to **E6:E10**.

**12.** Click cell **E11**. In the Function Library group click **AutoSum**. Press **Enter** to accept the range as **E4:E10**.

**13.** Click cell **F4**. Click the **Insert Function** button. Select **AVERAGE** in the Insert Function dialog box and click **OK**. In the Function Arguments dialog box, click **OK**.

**14.** Click in the formula bar and change **E4** to **D4**. Click **OK**.

**15.** Click cell **F4** and use the fill handle to copy the formula to **F5:F11**.

**16.** SAVE the workbook to your Lesson 5 folder as ***05 Wingtip Toys Sales Solution*** and then CLOSE the file.

**LEAVE Excel open to use in the next project.**

# Proficiency Assessments

## Project 5-3: Compare Payments

Monica recently graduated from college and needs to replace her current vehicle. She wants to use Excel 2013 to help her decide whether she should buy a lower priced vehicle or something newer.

**GET READY. Launch Excel if it is not already running.**

**1.** OPEN ***05 Compare Payments*** from the data files for this lesson.

**2.** Enter a formula that displays today’s date in cell B2.

**3.** Enter a formula in cell B4 that calculates a monthly interest rate based on the rate displayed in B3. Be sure to use an absolute cell reference to B3.

**4.** Use the PMT function to calculate loan payments for each dollar amount below the Amount Borrowed heading. Be sure to use absolute cell references for the rate and nper arguments, and add a minus sign before PMT in the formula so the result is a positive value.

**5.** SAVE the workbook to your Lesson 5 folder as ***05 Compare Payments Solution*** and then CLOSE the file.

**LEAVE Excel open for the next project.**

## Project 5-4: Resolve Formula Errors

You work for the School of Fine Arts and have been asked to correct errors in a student GPA worksheet.

**GET READY. Launch Excel if it is not already running.**

**1.** OPEN ***05 Fine Art Formulas*** from the data files for this lesson.

**2.** An error occurs in cell F4. Examine the formula in the formula bar and correct the error manually.

**3.** For the error in cell F6, click the **warning icon** and use one of the options in the pop-up list to correct the error.

**4.** For the error in cell F12, use the Show Calculation Steps command to determine the source of the error and then correct the error using the formula bar.

**5.** One of the formulas at the bottom of the worksheet needs to be corrected. Use trace arrows to determine which formula’s range includes an extra cell and correct the formula.

**6.** SAVE the workbook to your Lesson 5 folder as ***05 Fine Art Formulas Solution*** and then CLOSE the file.

**LEAVE Excel open for the next project.**

# Mastery Assessments

## Project 5-5: Build Formulas to Track Merchandise Stock Levels

Wide World Importers sells a variety of fine wool rugs, textiles, ceramics, furniture, and statues from the Middle East. The company tracks levels of stock in nine different categories, and keeps several units of each type of stock in five warehouses spread across the region. You have been asked to track all 45 stock levels.

**GET READY. Launch Excel if it is not already running.**

**1.** OPEN ***05 Importers Stock*** from the data files for this lesson.

**2.** Use the SUM formula to total the number of stock units in each warehouse.

**3.** Calculate the number of stock units that are at zero (0) across all six warehouses in cell B14.

**4.** Calculate the maximum number of stock units in any warehouse in cell B15.

**5.** Calculate the minimum number of stock units in any warehouse in cell B16.

**6.** SAVE the workbook to your Lesson 5 folder as ***05 Importers Stock Solution*** and then CLOSE the file.

**LEAVE Excel open for the next project.**

## Project 5-6: Complete the Analysis Sheet in the Budget Workbook

Blue Yonder Airlines wants to analyze the sales and expense data from its four-year history. You will complete the Analysis sheet to summarize the data.

**GET READY. LAUN CH Excel if it is not already running.**

**1.** OPEN ***05 Income Analysis Start*** from the data files for this lesson.

**2.** On the Analysis sheet, calculate average sales for each of the four service categories using range names. Use Name Manager to examine range names in the workbook before you enter the formulas.

**3.** Calculate the average expenses for each of the four service categories.

**4.** Calculate the maximum sales for each of the four service categories.

**5.** Calculate the maximum expenses for each of the four service categories.

**6.** SAVE the workbook to your Lesson 5 folder as ***05 Income Analysis Solution*** and then CLOSE the file.

**CLOSE Excel.**