

Use cell references


Excel needs very precise instructions, which means that formulas must be typed exactly as shown. Missing a comma or parenthesis, or misspelling a function name, will produce errors.

Before you begin



During the practice, this window will stay on top of the program you are working in. When it covers an area you need to use, move and resize it as follows:

To move this window, click the title bar of the window (as shown below) and drag it to a new location:



To resize this window, drag the resize handle  in the lower-right corner.

Set up your workspace

If your worksheet has white page margins at the top, click the **View** tab on the Ribbon. In the **Workbook Views** group, click **Normal** to switch from Page Layout view to Normal view. (Or click the **Normal**  button on the **View** toolbar  at the bottom of the screen.)

Exercise 1: Type cell references in a formula

In cell E9, type a formula using cell references to total January video rentals and February CD expenses.

Here's how In cell E9, type **=SUM(B5,C7)**. (As you begin to type, the Formula AutoComplete list and a function tooltip appear. You can ignore both for now; just continue to type.) Notice that when you type **B5**, Excel highlights cell B5, and when you type **C7**, Excel highlights

cell C7. Enter the formula exactly as shown, and then press ENTER to display the formula result, which is 37.96.

Notes

You can get the same result by typing **=B5+C7**. The SUM function is most useful when you have more than a few values to add.

A function tooltip may appear as you type. For example, SUM(number1,[number2],...). The tooltip shows you what to enter in the formula.

Exercise 2: Select cell references for a formula

In cell E10, try entering the same formula by clicking cell references instead of typing them. Here's the formula: =SUM(B5,C7).


1. Type an equal sign in cell E10.
2. Type **SUM** followed by an opening parenthesis. (Again, ignore the Formula AutoComplete list and the function tooltip, which are there to help you enter formulas when you don't necessarily recall how to enter them.)
3. Click cell B5, and then type a comma.
4. Click cell C7, type a closing parenthesis, and then press ENTER to get the result 37.96.


Exercise 3: Use an absolute reference in a formula

In cell D11, recreate the example from the lesson by figuring out how much you'd save with a 7 percent discount on February's video rentals, movies, and CDs.

1. In cell D11 type the discount rate, **0.07**, and then press ENTER.
2. In cell D5 type **=C5*\$D\$11**, and then press ENTER. The result is 1.12.


Notice we used the absolute reference for cell D11:
\$D\$11.

3. Next, copy the formula down through row 7 by clicking in cell D5 and positioning the mouse pointer over the lower-right corner of that cell until the black cross (+) appears. Then drag (by holding the mouse button down) the fill handle  over the rows, releasing it in cell D7. The results are 2.24 in cell D6 and 2.10 in cell D7.

As the formula is copied, the relative cell references change from C5 to C6 to C7, while the absolute reference to cell D11 does not change. It remains as \$D\$11 in each row it is copied to, as you will see if you click cells D6 and D7 and look at the result in the formula bar  near the top of the worksheet.

Exercise 4: Add up several results

Total the savings from the previous exercise by entering a formula into cell D8.

Here's how Click in cell D8, click **Sum**  in the **Editing** group on the **Home** tab, and then press ENTER. The result is 5.46. You could also have typed **=SUM(D5:D7)**.

Exercise 5: Change values and totals

See formula results automatically updated when you make a revision. First, notice the value in cell B8. Then, in cell B6 change "16.00" to "28.00," and then press ENTER. The total in B8 will be updated, in this case to 107.94. If you want, change any other values to see the total updated again.

Note If results are not updated, on the **Formulas** tab, in the **Calculation** group, click **Calculation Options**, and then click **Automatic** to select that option.