



# Excel Functions Every Excel User Should Know, Pt. 2

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**T**he last issue of *RCM Advisor* discussed several basic Excel functions. This issue will introduce two more functions that can add power and flexibility to your spreadsheets. The first function, **ROUND**, is an easy way to consistently round numbers on reports. The next function, **WEEKDAY**, is a helpful way to quickly determine days of the week and to identify weekends.

## ROUND

The ROUND function quickly rounds numbers or the results of formulas to the precision you need. Pennies may be too much detail and take up too much space. Rounding can be especially helpful as numbers get larger. To start, consider the numbers in Figure 1. To round the \$10,522.54 in cell

B3 to \$10,523 in cell C3, the formula in cell C3 is =ROUND (B3, 0). The ROUND function works by rounding the first parameter to the number of digits specified in the second parameter. In our example, \$10,522.54 is the first parameter. The second parameter of zero tells Excel to round to the nearest whole number. To round to the nearest penny, change the second parameter to a two, which tells Excel to round to two places after the decimal. In Figure 2, the formula in cell C5 is =ROUND (B5, 2).

Note that the icons circled in Figure 3 change the way Excel displays the number, not the way Excel stores the number. Consider the two formulas in Figure 4. The number in all six cells to be totaled is 3.4. By formatting the numbers to hide the decimals, you are changing the way Excel displays the number, but the number is still 3.4. Clearly,  $3 + 3 + 3$  does not equal 10, as the equation on the left shows. Appropriately rounding results can make sure that your formulas do not contain obvious errors like  $3 + 3 + 3 = 10$ .

You can also use ROUND to round to the nearest hundred or thousand. The trick is to use a negative number in the second parameter of the formula. For example, the formula in Figure 5 cell C7 is =ROUND (B7, -2). To round to the nearest thousand, you want three places to the left of the decimal, so the second parameter would be -3.

Another tip is to use ROUND in conjunction with other functions. Excel calls it nesting functions, or placing one function inside another function. For example, to round the sum of cells K1 through K10 to the nearest whole number, try =ROUND(SUM(K1:K10),0). The SUM function is nested inside the ROUND function. Excel solves the equation from the inside out, calculating the sum and then rounding the result. To round a FICA calculation, the function =ROUND (J7\*0.062, 2) would apply a 6.2 percent tax rate to cell J7, rounding the result to the nearest penny.

**FIGURE 1**

	A	B	C
1			
2			
3	ROUND to nearest dollar	\$10,522.54	\$10,523.00
4			

**FIGURE 2**

	A	B	C
1			
2			
3	ROUND to nearest dollar	\$10,522.54	\$10,523.00
4			
5	Round to nearest penny	33687.2334	33,687.23
6			

**FIGURE 3**

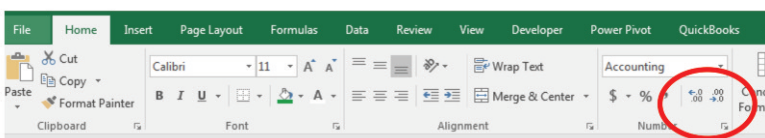


FIGURE 4

3	3.40
3	3.40
3	3.40
10	10.20

FIGURE 5

	A	B	C
1			
2			
3	ROUND to nearest dollar	\$ 10,522.54	\$ 10,523.00
4			
5	Round to nearest penny	33687.2334	33,687.23
6			
7	Round to nearest hundred dollars	\$ 10,522.54	\$ 10,500.00

FIGURE 6

	A	B	C	D
13				
14				
15	11/5/2017	Sunday	7	
16	11/30/2017	Thursday	4	
17	11/26/2017	Sunday	7	
18	11/22/2017	Wednesday	3	
19	11/29/2017	Wednesday	3	
20	11/4/2017	Saturday	6	
21	11/19/2017	Sunday	7	
22	11/8/2017	Wednesday	3	
23	11/24/2017	Friday	5	
24	11/4/2017	Saturday	6	
25				

WEEKDAY

The WEEKDAY function takes a date and returns a number between one and seven indicating the day of the week that the date falls on. The WEEKDAY function requires a date and has an optional second parameter. If the second parameter is a one or is omitted, Excel calculates weekdays by calculating Sunday as a one through Saturday as a seven. Nov. 5, 2017, falls on a Sunday. If the date 11/5/17 is stored in cell C4, =WEEKDAY (C4) will return a one, indicating that Nov. 5 is a Sunday in 2017. The formula =WEEKDAY (C4, 1) will also return a one.

If you instead enter =WEEKDAY (C4, 2) as the formula, the formula will return a seven. A two as the second parameter means the week starts on Monday, and Sundays are represented as a seven. Obviously, Nov. 5, 2017, will always fall on Sunday. The difference between =WEEKDAY (C4, 1) and =WEEKDAY (C4, 2) is when the week starts. When the second parameter is blank or one, the week starts on Sunday with Sunday as a one and Saturday as a seven. When the second parameter is a two,

the week starts on Monday with Monday as a one and Sunday as a seven. When the second parameter is a three, the week starts on Monday with Monday as a zero and Sunday as a six. Excel includes other options from 11 to 17 if you need your WEEKDAY week to start on a different day of the week.

A practical use for the WEEKDAY function is found in Figure 6. Dates are stored in column A. Column B displays the day of the week for reference. The formula in column C uses the WEEKDAY function with a two as the second parameter. For example, the formula in cell C15 is WEEKDAY (A15, 2). Since two is the second parameter, any time the WEEKDAY function is greater than five, we know the date falls on a weekend. (Remember with a second parameter of two, Saturday will display as a six and Sunday as a seven). Column C uses conditional formatting to highlight weekend dates. Spreadsheets that calculate call premiums, overtime, days when the clinic should be closed, or similar examples can be created more accurately and more simply using the WEEKDAY function.

Note that WEEKDAY is great at calculating whether the November day is a weekend, but it does not recognize the Thanksgiving holiday. To calculate the number of days between two events and recognize holidays, you need the NETWORKDAYS function. We will discuss NETWORKDAYS in the next issue.

This article just scratches the surface of helpful Excel functions. Watch for more functions in the next issue of RCM Advisor. For dozens of free articles and hundreds of free videos on using Excel in a medical practice, please visit [www.mooreolutionsinc.com](http://www.mooreolutionsinc.com).

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