


Assignment: Learn how to use absolute references, SUMIFS, and VLOOKUP

Step	Task
1	<p>Download the Formulas and Functions practice document here.</p> <ul style="list-style-type: none"> - After opening the link above select File -> Download -> Microsoft Excel
2	<p>Calculate total units sold with AutoSum</p> <ul style="list-style-type: none"> - Select cell G2, in the Home tab -> Editing group -> AutoSum button. It should default to =SUM(D2:F2), since those are currently all of the columns with numbers. Press the Enter key. - Use the fill handle to complete Column G. All of the values needed are relative references, so we don't need to edit anything.
3	<p>Calculate total revenue for chocolate chip with absolute references</p> <ul style="list-style-type: none"> - Select cell H2 - Type "=D2*" into the formula bar - Click the Item List sheet tab at the bottom of the workbook - In the Item List sheet, select cell C2 <ul style="list-style-type: none"> - The formula bar should now read "=D2*Item List!C2" - Put the cursor in the formula bar between the C and 2 of C2, press the F4 key to automatically set it as an absolute reference <ul style="list-style-type: none"> - Depending on your keyboard, you may need to hold down the Function key before pressing F4 - The formula bar should read "=D2*Item List!\$C\$2" - Press Enter to update the formula - Bring the fill handle down to complete Column H <p><i>NOTE: By pressing F4 and inserting the dollar signs in C2, we are telling Excel to make that cell an absolute reference. All of the cells in Column H will now look back at the price of chocolate chip cookies. If using F4 doesn't work, you can manually insert the dollar signs.</i></p>
4	<p>Calculate total revenue for oatmeal and sugar cookies with absolute references</p> <ul style="list-style-type: none"> - Select cell I2 - Type =E2* into the formula bar - Click into the Item List sheet - Click cell C3 in the Item List sheet - The formula bar should read =E2*Item List!C3 - Put the cursor in between the C and 3 in the formula bar, press F4 (this will bring you back to the Sales by Employee sheet) - Press enter and fill handle down the rest of Column I
5	<p>Calculate total revenue for sugar cookies using the fill handle and editing</p> <ul style="list-style-type: none"> - Select cell I2 - Use the fill handle to copy the formula from cell I2 into J2

	<ul style="list-style-type: none"> - Select J2 as the active cell, click on the formula bar to edit - Change the 3 from “\$C\$3” into a 4 - The formula bar should read =F2*Item List!\$C\$4 <p><i>NOTE: F2 updated automatically as a relative reference</i></p> <ul style="list-style-type: none"> - Press enter and fill handle down the rest of Column J
6	<p>Calculate grand total revenue with AutoSum</p> <ul style="list-style-type: none"> - Select cell K2 - Press the AutoSum button. It should default to =SUM(H2:J2), because there are only numbers to the left (none below). - Press enter and fill handle down the rest of Column K
7	<p>Format as currency</p> <ul style="list-style-type: none"> - Select cells H2:K33, format as currency through the number group
8	<p>Calculate region totals with SUMIFS</p> <ul style="list-style-type: none"> - In the Regional Totals sheet, select cells D1:D9, cut and paste in A2 (you will be pasting over the Region heading) - In cell B3, press the Insert Function button  on the formula bar - To search for SUMIFS, choose ALL from the “Or select a category” dropdown, click on one of the formulas, and type an S to get down to that letter in the list - When selecting the cell ranges, you click between sheets and highlight the ranges instead of typing everything out <p><i>NOTE:</i></p> <ul style="list-style-type: none"> - <i>The sum range represents all the numbers we want Excel to analyze.</i> - <i>The criteria range represents what Excel has to look at to group the sum range numbers together.</i> - <i>Criteria1 tells Excel where the specific thing we want it to focus on is.</i> <p>Sum_range= ‘Sales By Employee’!G2:G33 Criteria_range1= ‘Sales By Employee’!C2:C33 Criteria1= A3 (on Regional Totals sheet)</p> <ul style="list-style-type: none"> - Before applying this formula, set all of the cells in Sum_range and Criteria_range1 to absolute references. - This formula is telling Excel “Look at all of the total units sold and the region each total is associated with. If that region is Far West, add it together”
9	<p>Calculate grand total revenue by region with SUMIFS</p> <ul style="list-style-type: none"> - In cell C2 repeat the process, when entering the Insert Function menu you can find SUMIFS in the Most Recently Used category

	<p>Sum_range= 'Sales By Employee'!K2:K33</p> <p>Criteria_range1= 'Sales By Employee'!C2:C33</p> <p>Criteria1= A3 (of the Regional Totals sheet)</p> <ul style="list-style-type: none"> - Again, make everything in Sum_range and Criteria_range is an absolute reference and fill down - Format as currency with the Number group - This formula is telling Excel "Look at all of the grand total revenues and the region each grand total is associated with. If that region is Far West, add it together."
10	<p>VLOOKUP</p> <p><i>NOTE: VLOOKUPs allow you to pull in pieces of a large list of data without having to go in and manually look it up yourself. If you assign something a code, you can put in that code and have Excel fetch all the relevant information.</i></p> <ul style="list-style-type: none"> - Select cell B4 of the Order No. 1436 sheet - Press the Insert Function button on the formula bar. - In the same way as SUMIFS, you can type the letter V when in the All category to find the VLOOKUP on the list. <p>Lookup_value= A4</p> <p>Table_array= 'Item List'!\$A\$1:\$C\$4</p> <ul style="list-style-type: none"> - Select the entirety of the filled in cells of the Item List sheet - Make the cells absolute references <p>Col_index_num= 2</p> <ul style="list-style-type: none"> - In this case the columns are all assigned numbers, this refers to Column B <p>Range_lookup= FALSE</p> <ul style="list-style-type: none"> - Capitalization does not matter - The formula will return a value of #N/A, which is what we want. The formula is correctly identifying that we don't have any data in A4 for it to look at. - Use the fill handle down to B6, note the only thing changing is the Item ID reference cell - Lookup value refers to the cell that the formula is trying to pull information from. The table array refers to the established data where

	<p>each item means something different (in this case each Item ID means a different cookie and price). The column index number tells the formula what piece of data to populate in the cell you're inserting the formula in (we want the cookie name, which is in column B/2 of the Item List sheet). FALSE tells the formula to look for exact matches rather than approximate matches.</p>
11	<p>Automatically generate price with VLOOKUP</p> <ul style="list-style-type: none"> - Repeat the above steps for price <p>Lookup_value= A4</p> <p>Table_array= 'Item List'!\$A\$1:\$C\$4</p> <p>Col_index_num= 3</p> <p>Range_lookup= FALSE</p> <ul style="list-style-type: none"> - Fill handle down to C6, again we should still be getting no number values because A4 is blank
12	<p>Complete remaining columns with simple formulas</p> <ol style="list-style-type: none"> 1. In cell E4, write =C4*D4, fill handle down to E6 2. In cell F4, write =E4*\$J\$1, fill handle to row 6 3. In cell G4, write =SUM(E4:F4) (can also use AutoSum button), fill handle to row 6
13	<p>Format as currency</p> <ul style="list-style-type: none"> - Highlight Columns E:G - Hold down the Ctrl key, then click Column C so it is also highlighted. - Convert all to currency in the Number group, as you can apply formatting even if your cells aren't showing numbers (or are blank).
14	<p>Insert Item ID numbers</p> <ul style="list-style-type: none"> - Copy cells A2:A4 from the Item List sheet into cells A4:A6 of the Order No. 1436 sheet. - At this point the prices should populate into Column C. If you enter a number into Column D, Columns E:G will also populate.