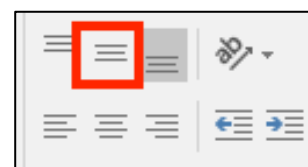


School Play Spreadsheet

1. Open the school play spreadsheet
2. Format cells as currency where needed (B5 to D8)
3. Use **SUM** functions in cells **B9** to **D9** to add up the numbers above
4. Use a **SUM** function in **G9** to add up the total costs (cells B9 to C9)
5. Use a **SUM** function in **G11** to add up the total number of seats available
6. Use **wrapped text** in cell F11
7. Format row 11 to **Align Text Middle** button on the ribbon
8. Change the numbers in row 14 to %ages using the **% button** on the ribbon
9. Calculate the number of tickets sold in B15: enter **=B11*B14**
Note how you can multiply by percentages in Excel
10. Enter the a ticket price of £1.20 in cell **G12**



The Cell Referencing Problem

11. Calculate the income for each night: click in **B16** > **=B15*G12**
12. **Copy** the formula in **B16** into cells **C16** and **D16**

That doesn't work. Click in cell C16 and check the formula bar at the top of the screen.

You want C15 in your formula, but you want to keep G12 in place rather than change each time. To do that we have to get clever and pin G12 in place.

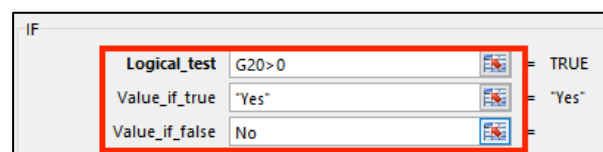
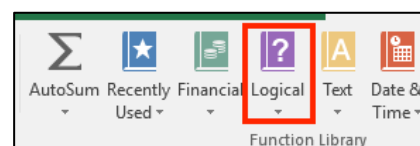
13. **Delete** the formulas in cells **C16** and **D16**
14. **Click** back in cell **B16**
15. Click in the **formula bar** at the **top** and change the formula to: **=B15*\$G\$12**
The dollar sign pins the G and the 12 in place. This is called **absolute cell referencing**. We still want the B15 reference to change so we don't pin it (this is called **relative cell referencing**)
16. Now **copy** the formula across into cells **C16** and **D16**
Now it should work. By combining relative and absolute cell referencing we have a better spreadsheet.

Finishing the spreadsheet

17. In cell **G18**, calculate the **profit** (the **difference** between income and costs)
18. **Format** the sheet as you see fit and turn it **landscape**
19. **Rename** the worksheet as **School Play**
20. In the **header or footer** add: you name, the filename, the worksheet name, an automatically updated time and date – use the buttons to do this

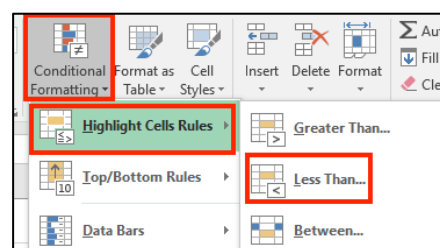
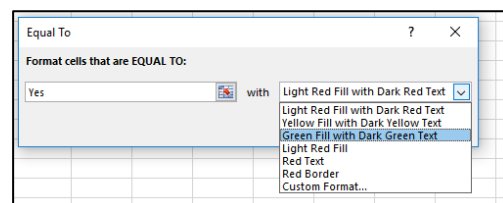
Using IF functions

21. Click in cell **G20**
22. Click **Formulas** on the ribbon at the top
23. Click the **Logical** button at the **top** > choose the **IF** function
24. In the **Logical test** box type: **G18 < 0**
25. In the **Value if true** box type: **Made a loss**
26. In the **Value if false** box type: **Made a profit**
27. Click **OK** and then press **Enter** (Return)
Try changing the price of a ticket so that the profit value changes



Conditional formatting

28. Click in cell **G18**
29. Click **Home** > **Conditional Formatting** > choose **Highlight Cell Rules** > **Less than**
30. Type **0** in the box and choose a **red format** from the drop down > Click **OK**

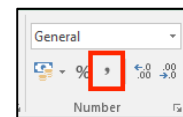


Advanced formatting

31. Click **Page Layout** > **Margins** > choose **Custom Margins**
32. Set all four margins to **2** > **OK**
33. Highlight just the area from **A1 to D16** > **Page Layout** > **Print Area** > **Set Print Area**
34. Check the **Print Preview** to see what this has done
35. **Clear** the Print Area (**Page Layout** > **Print Area** > **Clear Print Area**)
36. Click **Page Layout** > **tick** the **Print** box for **Gridlines** > **tick** the **Print** box for **Headings**
37. Check the **Print Preview** again to see what this has done

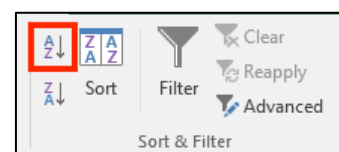
UK Population Graph

38. Move to **Sheet1** > **rename** this as **UK Population**
39. Highlight cells **B3 to B13** and **add commas** to the numbers (use the Comma button on the ribbon)
40. Highlight cells **A4 to B13** > create a **Line chart** (use Marked Line)
This doesn't look right. The problem is that Excel thinks that the years are numbers
41. Delete the chart > highlight just **B4 to B13** > draw the line chart again
42. Add the **Horizontal Axis Labels** (use **Select Data**) and format the chart
Try and get the tickmarks to cross at the dates and set the vertical axis to start at 55,000 and go to 60,000



Sorting a simple sheet

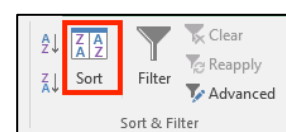
43. Move to **Sheet 2** > **rename** this as **Budgie** (it shows the members of seminal rock band Unleaded Budgie)
44. Highlight cells **C4 to C10** only
45. **Click Data** > click the **AZ button** next to the Sort button



Ignore any warnings

Look and see what's happened to the data. You should find that just column C has been sorted. The problem here is that the weights now don't match up correctly with the band members.

46. **Undo** the sort
47. Highlight cells **A3 to D10** – i.e. all the data in the table
48. Click **Data** > **Sort** (the Sort button)
49. Make sure the **My data has headers** box at the top right is **ticked**
50. From the **Sort by** drop down box choose **Height**
51. Set the **Order** from **Highest to Lowest** > click **OK**

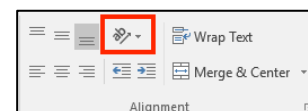


This should sort the whole table properly

52. Do the following sorts:
 - a. weight – lowest to highest
 - b. age – highest to lowest
 - c. name – reverse alphabetical order (so, from Z to A)
53. Note that three of the band members are aged 43. We need to split them.
54. Sort on **age** – highest to lowest, but this time click **Add a level** > choose **Name** and sort alphabetically by name as a second sort > click OK
This should order the band members by age with the ones who are 43 being put in alphabetical order

Complex Sorting

55. Move to **Sheet3** > **rename** this as **Parkrun**
56. Highlight cells **A1 to C1** and **rotate** the text to be **horizontal** – use the Text Orientation button on the ribbon
57. Highlight all the numbers in **Column C** and show them to **2 decimal places** – use the Increase and Decrease Decimal Places buttons on the ribbon
58. At the bottom of the data, add a new set of data:



1 April 2014, position 17, time 22.32

The important skill here is seeing what happens when you enter dates

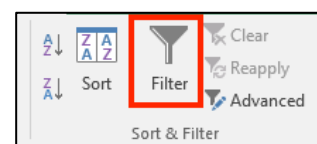
59. The column of numbers is far too long to be able to read the header row:
 - a. highlight the header row (**row 1**).
 - b. **View** > **Freeze Panes** > freeze the **top row** of the sheet

This should mean that you can now scroll and have the top row stay in place
60. Check the **Print Preview**. You'll notice that the titles don't print on the second page and that there are no gridlines:
 - a. **Page Layout** > tick the **Print Gridlines** box
 - b. **Page Layout** > **Print Titles** > set the titles so that **row 1** prints on each page

Check the Print Preview again
61. Highlight all the dates in **Column A**. From the **Date drop down box** (Currency etc..) pick **Custom**. Use the options to change the date style to **YYYY-MM-DD**
62. Highlight columns A to C
63. **Data** > **Sort** > sort the data so that the slowest time is at the top
64. Now sort the data so that the newest date is at the top
65. And then sort the data so that the lowest position is at the top
66. And finally sort the data so that the quickest time is that the top

Filtering data

67. Click **Data** > press the **Filter** button
68. Use the drop down that appears in cell **B1** to select the lowest position only (untick all the other boxes)



This will only show one piece of data, which can be quite useful

69. Set the filter back so that all the data is shown (use the drop down)
70. Now set a filter so that only the runs inside the top 100 places are shown
71. Then set a filter on the Time column so that only the runs that were quicker than 23:30 are shown as well
72. Reset all the filters > Set a filter so that only the most recent 10 runs are shown