**Date: ............................................. Name: .....................................................................................................**

**WINCHESTER COLLEGE VBK PRACTICAL MATHEMATICS** **AND MICROSOFT EXCEL COURSE**

**FOOTBALL STATS**

**Scope**

The spreadsheet Soccer Stats.xls contains a table of the result of every UK Premier League football match from August 1995. (The Premiership actually started in 1993, but I have omitted data from the earlier years as they didn't have half time scores). Data (the green cells) consist of home and away teams, score at half time and score at full time. The spreadsheet automatically works out (the tan coloured cells) the result (WIN, LOSE or DRAW) and the number of points received by each team.

This is your chance to form a *hypothesis* about football, and *then use the data to test it*. Although the Beautiful Game is notoriously fickle, one should be able to use historical statistics to work out the probability of certain future events happening.

Who has the better away record in the last five seasons, Arsenal or Liverpool?

Are more goals scored in the second half if the match is drawn at half time?

If a team is leading 3-0 at half time, does it turn into a rout, or do they give up? Are some teams 'more aggressive' than others?

Is the ratio of goals scored by one team to the total goals in a match correlate with final position in the table at the end of the season? Can you work out a statistic which ranks 'the most exciting team?' (i.e. scores lots of goals, but possibly let in rather many too. Newcastle used to play a bit like this in the 1990s!)

**Some key skills to master**

* Use of filters
* Pivot tables
* Create new columns based on a statistical metric (e.g. ratio of total goals scored in the second half to goals scored in the second half) and use these extra columns, via filters, to sort the data to help answer a question posed.
* Use of logical functions such as = IF( .....)
* Making a hypothesis, working out how to test this *quantitatively* (i.e. using the data, not fuzzy opinions), and then working out how to present your findings clearly

**Ideas for next steps**

This task should feel more like a *research project*. Open a document in Microsoft PowerPoint and start writing down some questions to ask of the data. Then modify the Soccer Stats spreadsheet to help answer the question. Cut and paste cropped screenshots into your PowerPoint presentation to provide 'evidence' to support the answer to your question.

Use IrfanView or the Snipping Tool to perform the crop. Shortcuts to these applications will be in the main Excel Course directory on the Y drive.

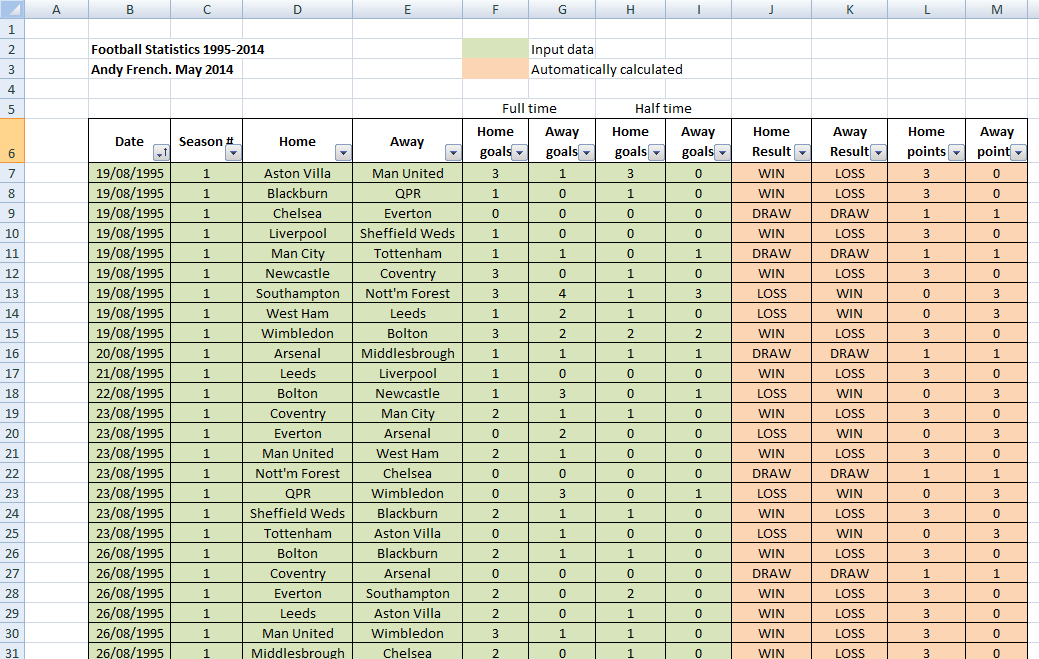
This session will conclude with several groups presenting their findings. Make them punchy and clear!

If you are feeling brave, the spreadsheet UK Premier 1993-2014 XLS contains more statistics, although many of these are only for more recent seasons. You could create a new spreadsheet and investigate further questions such as

Which team is the most gallant? (i.e. lowest number of red and yellow cards)

Does attendance correlate with a winning match?

What proportion of goals are scored form corners, or other set pieces?



AF 18/5/14

Status as of 7/05/2014