

TSM Excel Beginners Workshop – Day 3

More interactive worksheet for pupils to use

Spreadsheet file "Sequences"

The screenshot shows a Microsoft Excel spreadsheet with the following content:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Sequences														
2															
3	What is the third term?														
4	What is the fourth term?														
5	The fifth term?														
6	What is your rule?														
7	If the tenth term is 1024 what is the ninth term?														
8															
9															
10	1	2				32									
11															
12															
13	What is the third term?														
14	What is the fourth term?														
15															
16	What is your rule?														
17	If the eleventh term is 1025 what is the tenth term?														
18															
19	2	3				17							129		
20															
21															

The spreadsheet interface includes the Microsoft Excel menu bar (File, Edit, View, Insert, Format, Tools, Data, Window, Help), a toolbar with various icons, and a status bar at the bottom showing the system tray with the Start button, taskbar icons for 'sequences', 'Microsoft Exc...', '2 Microsoft ...', and 'Internet E...', along with the system clock showing 16:02.

When making this sheet you may want to prevent formulas from displaying in the formula bar.

Caution This procedure also prevents the cells that contain the formula from being edited.

1. Select the range of cells whose formulas you want to hide. You can also select nonadjacent ranges or the entire sheet.
2. On the **Format** menu, click **Cells**, and then click the **Protection** tab.
3. Select the **Hidden** check box.
4. Click **OK**.
5. On the **Tools** menu, point to **Protection**, and then click **Protect Sheet**.
6. Make sure the **Protect worksheet and contents of locked cells** check box is selected.

You can hide text by highlighting a cell and making the font colour white.

Spreadsheet file "Adding fractions"

The screenshot shows a Microsoft Excel spreadsheet titled "adding fractions". The spreadsheet is organized into several sections:

- Section 1:** A title "Adding fractions" in a yellow header cell.
- Section 2:** A section titled "Investigate....." containing a formula in cell C5: $\frac{1}{1} + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \dots$. The denominators 1, 2, 3, 4, and 5 are in cells C6, D6, E6, F6, and G6 respectively.
- Section 3:** A section titled "Plot a graph" containing a table with two columns: "Denominator" and "Sum". The table data is as follows:

Denominator	Sum
1	1
2	1.5
3	
4	
5	
6	
7	
- Section 4:** A line graph titled "Adding fractions" showing the sum of reciprocals. The x-axis is labeled "Denominator" and ranges from 0 to 6. The y-axis is labeled "Sum" and ranges from 0 to 3. A blue line starts at (1, 1) and passes through (2, 1.5). A callout box with a starburst shape says: "Try other fraction sums. eg (1/2)+(1/4)+(1/6)+...".

Squares and primes

Build a spreadsheet to investigate.....

- no square number leaves a remainder 2 when divided by 3
- no square number has remainder 2 or 3 when divided by 5
- no square number has remainder 3 or 5 when divided by 7
- every prime number (greater than 3) can be written in the form $6n+1$ or $6n-1$
- for every prime number n , $(n^2 - 1) / 24$ is an integer.....

Square numbers

Build a spreadsheet to investigate.....

The number 65 can be written as the sum of two squares: $65 = 4^2 + 7^2$

Can you write its double, 130, in a similar way?

Try a few more.....

$$34 = 5^2 + 3^2$$

$$29 = 2^2 + 5^2$$

$$250 = 9^2 + 13^2$$

Can you find a method to help you?