**Circle calculations**

Set up a spreadsheet to calculate the perimeter and area of a circle and a sector.

Start as follows below. You can insert the shapes and you can use Number on the homepage to set the number of decimal places that would be reasonable.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | A | B | C | D | E | F | G | H |
| 1 |  | |  | | --- | |  | | |  | | --- | |  | | |  | | --- | |  | | |  | | --- | |  | | |  | | --- | |  | | |  | | --- | |  | | |  | | --- | |  | |
| 2 |  |  |  |  |  |  |  |  |
| 3 | Radius (cm) | Circumference (cm) | Area (cm2) | sector angle(◦) | arc Length | straight sides | Sector perimeter | Sector area (cm2) |
| 4 | **5.0** | 31.4 | 78.5 | **90** | 7.8 | 10.0 | 17.8 | 19.6 |

From the Homepage you can insert shapes for the headings.

As parts of your formulae use =pi(), which gives an accurate approximation to the value of π.

Your completed spreadsheet should agree with the values in the table.

|  |  |  |  |
| --- | --- | --- | --- |
| 1. Calculate values to fill in the table. 2. Experiment with different values of the radius of a circle to check your answers | Radius of circle | Circumference | Area |
| 10.0 cm |  |  |
|  | 50.0 cm |  |
|  |  | 50.0 cm2 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. Calculate values to fill in the table. 2. Use your spreadsheet to check your answers | Radius of sector | Angle | Perimeter | Area |
| 10.0 cm | 90◦ |  |  |
| 10.0 cm | 180◦ |  |  |
|  | 180◦ |  | 120 cm2 |
|  | 120◦ |  | 40 cm2 |
|  | 120◦ | 100 cm |  |

**Excel learning**

Formulae involving π, squares and square roots

Inserting shapes into a spreadsheet