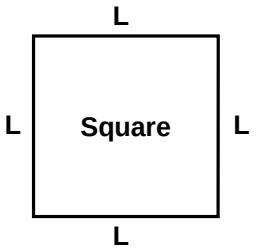
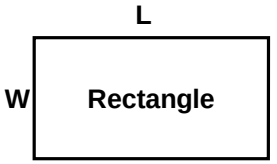
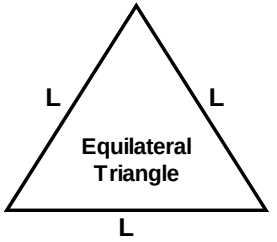
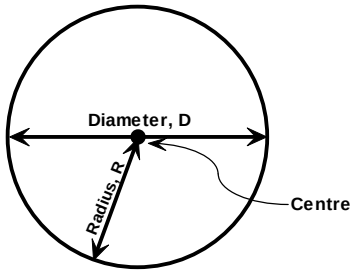
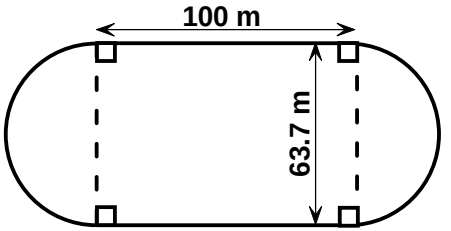
Perimeters

	Perimeter = 4L
	Perimeter = 2(L + W)
	Perimeter = 3L
	Perimeter = πD Or Perimeter = $2\pi R$

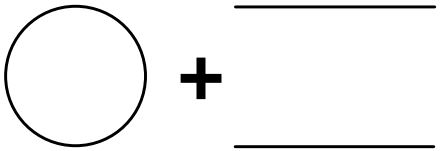
Perimeters of 2D Shapes

Running Track Perimeter Question



You can work out the whole perimeter by doing a sort of sum of shape perimeters like this:

Which, since the two half circles make a whole circle, is the same as:



$$\text{Perimeter of circle} = \pi D$$

$$\text{Perimeter of circle} = 3.14 \times 63.7m$$

$$\text{Perimeter of circle} = 200.0m$$

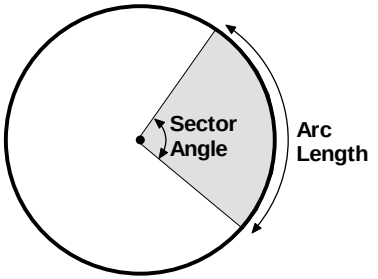
$$\text{Total perimeter} = \text{circle perimeter} + \text{straight bits length}$$

$$\text{Total perimeter} = 200.0m + 200.0m$$

$$\text{Total perimeter} = 400.0m$$

Length of an arc

A sector is a chunk of a circle like a wedge of cake. The sector in the diagram has a *sector angle* of about 95°. The curvy bit of the sector is called the *arc length*.



The fraction that the sector angle is of 360°, is also the fraction that the arc length is of the full circumference. In mathematical terms this is:

$$\text{Arc length} = \frac{\text{Sector angle}}{360°} \times \pi D$$

Using π

Pi is a special number because you can keep writing down digits to the right of the decimal place forever:

π =3.14159265358979323846264338327950288419716939937582099 6 … and so on and so on…

Now when you're doing an exam, you've got two choices. You can either use a memorised version of pi to do your calculations – most maths teachers are happy if you use "pi to two decimal places" – 3.14 in other words. The other option is to use the pi button on your calculator – when you press the pi button, it's as if you'd entered pi to about 8 or 10 decimal places yourself.