

Circles - Circumference

Transcript

This video will show you how to work out the circumference using either the radius or diameter. The circumference is the same as perimeter.

The radius is the measurement from the centre of the circle to any point on the edge. The diameter is the distance across the circle through the centre. It is twice as long as the radius.

First, we'll work out the circumference using the diameter, and then we'll do another example using the radius. The formula we need is pi times diameter. Pi is a number we use for calculations involving circles. Usually, it is sufficient to use pi rounded to three decimal places, which is 3.142. However, if you need a more accurate calculation, you should use the pi symbol on your calculator.

Circle 1 has a diameter of 14cm. Put this into our equation. $3.142 \times 14\text{cm} = 43.988\text{cm}$. And that is the circumference of our circle.

Circle 2 has a radius of 2.5m. We know the radius is half the length of the diameter, so we need to double 2.5 to get the diameter of 5m. Now we can use the formula $3.142 \times 5\text{m} = 15.71\text{m}$.

There is a different formula to work out the circumference of a semi-circle. What we need to do is pi times diameter, divided by two, plus the diameter. You must add the diameter after your division otherwise you will only have the circumference of half the outer circle – as shown on screen now. For our example, the diameter is 27cm. First, write down the equation that you need to work out. Pi x 27cm divided by 2, plus 27cm. And then work it out in stages. Pi x 27cm divided by 2 is 42.411cm. Then, 42.411cm plus 27cm equals 69.411cm. When you do the practice questions further down this page, you will see why you need to know how to work out the circumference of a semi-circle.

You can reach out to a Language and Learning Advisor for extra support by email, on our website or in person at the library.