Circle area and circumference

Learn and practise | Free preview

A sample from this topic. The complete topic collection contains three different resources and worked solutions.

Read the explanation and worked example. Show your working; use a calculator only where asked.

What you will practise

• Choose between circle area and circumference formulas.

• Explain a method and check the reasonableness of a result.

Useful starting skills: Use the prerequisite operations and representations shown in the worked example.

Circumference measures the circular boundary: $C=2\pi r$. Area measures the enclosed surface: $A=\pi r^2$. They have different units.

For a semicircle, halve the circle area. Its perimeter includes both the curved half-circumference and the straight diameter.

Worked example

Find area and circumference for radius 4 cm.

$A=\pi\times4^2=16\pi$ cm².

$C=2\pi\times4=8\pi$ cm.

Answer: 16π cm²; 8π cm

Try it yourself

Name: _____ Date: _____

1. Find exact area for radius 7 m.

2. Find exact circumference for diameter 9 cm.

Answers and explanations

Check the method as well as the final answer. An alternative correct method is also valid.

1. 49π m²

Square radius, then multiply by π.

2. 9π cm

$C=\pi d$.

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