Year 7 | Measurement

Parallel lines and polygon angles

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

• Use angle relationships and polygon angle sums with reasons.

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

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

When a transversal crosses parallel lines, corresponding angles match, alternate angles match and co-interior angles sum to 180°. Parallelism is essential.

A triangle has interior angle sum 180°. Dividing an n-sided polygon into n-2 triangles gives interior sum 180(n-2)°. State the angle property supporting each step.

Worked example

A triangle has angles 48° and 67°. Find the third.

The three angles sum to 180°.

180-48-67=65.

Answer: 65°

Try it yourself

Name: _____ Date: _____

1. A corresponding angle to a 73° angle lies between parallel lines. Find it.

2. Find a co-interior angle paired with 112° on parallel lines.

Answers and explanations

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

1. 73°

Corresponding angles are equal.

2. 68°

The pair sums to 180°.

Curriculum reference: VC2M7M04; VC2M7M05

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