Year 6 – Summer Block 1 – Geometry – Angles in a Triangle 1

About This Resource:

This PowerPoint has been designed to support your teaching of this small step. It includes a starter activity and an example of each question from the Varied Fluency and Reasoning and Problem Solving resources also provided in this pack. You can choose to work through all examples provided or a selection of them depending on the needs of your class.

National Curriculum Objectives:

Mathematics Year 6: (6G3a) Draw 2-D shapes using given dimensions and angles
Mathematics Year 6: (6G2a) Compare and classify geometric shapes based on their properties and sizes
Mathematics Year 6: (6G4a) Find unknown angles in any triangles, quadrilaterals, and regular polygons

More Year 6 Properties of Shapes resources.

Did you like this resource? Don't forget to review it on our website.

Year 6 – Summer Block 1 – Geometry
Good morning, Year 6! It's Friday 5th June 2020

Part 1 – Fluency

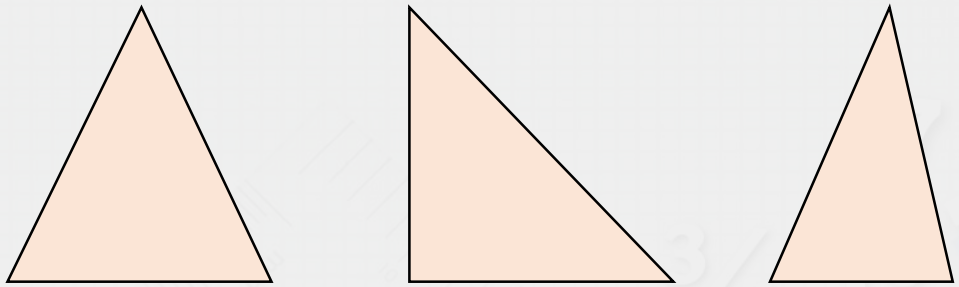
WALT Calculate Angles in a Triangle (lesson 1)

See my notes in green to help you.

Introduction

Look around the room you're in.
How many straight 180° angles can you find?

Can you find any sets of three angles that add to make 180°?



Introduction

Look around your classroom.
How many straight 180° angles can you find?

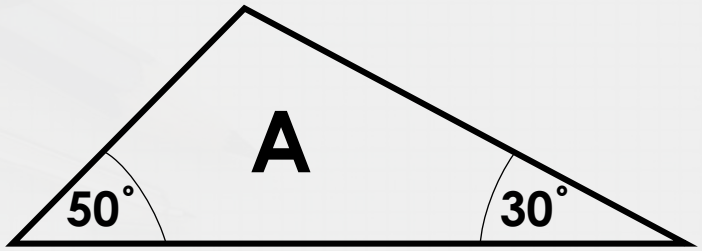
Possible answers: straight edge of desk, top of window or doorframe, pencil

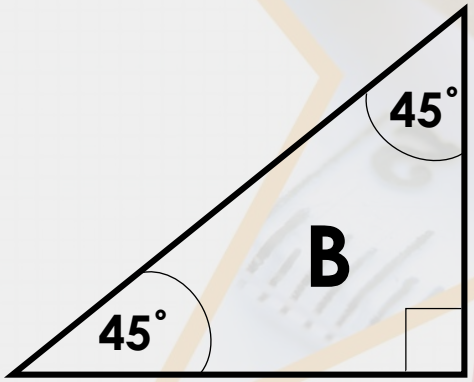
Can you find any sets of three angles that add to make 180°?

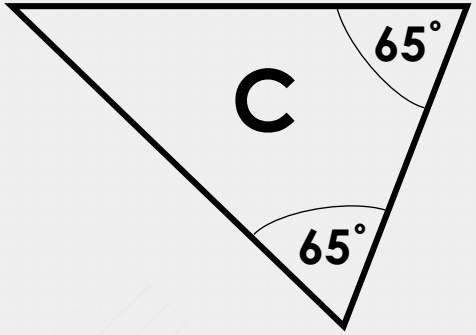
Possible answers: door open at an angle making a triangle, bunting, any triangular figure

Varied Fluency 1

Which triangle has an obtuse angle?



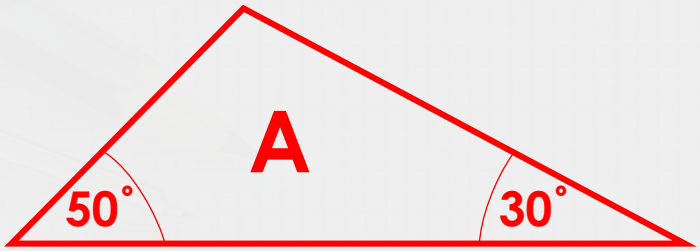


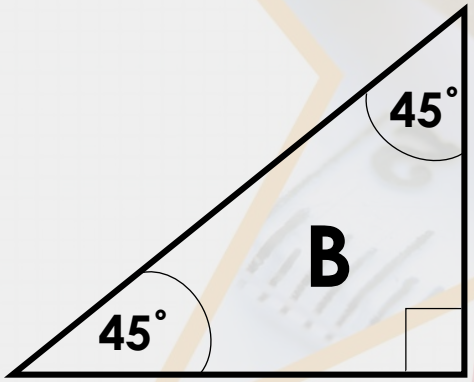


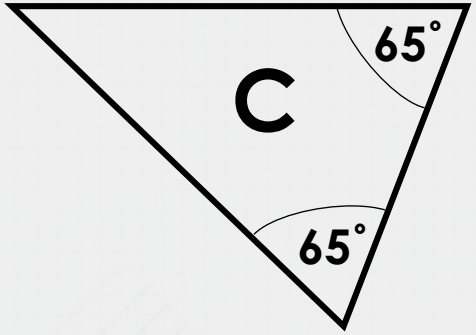
Triangles not drawn to scale.

Varied Fluency 1

Which triangle has an obtuse angle?



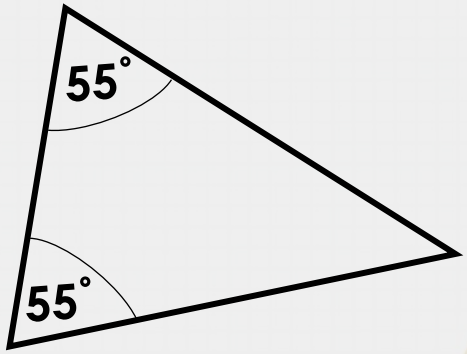




Triangles not drawn to scale.

Varied Fluency 2

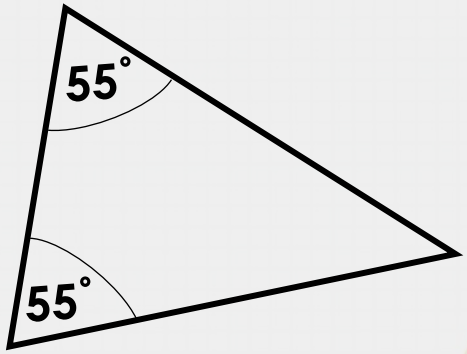
What kind of triangle is this?



Triangle not drawn to scale.

Varied Fluency 2

What kind of triangle is this?

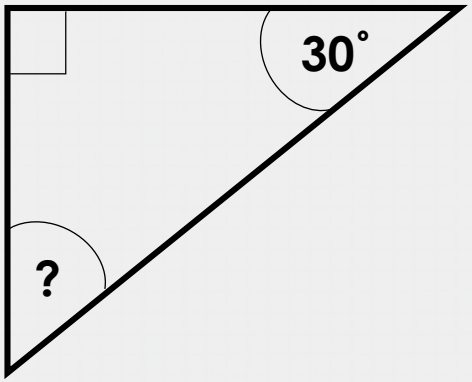


Isosceles – *two identical angles*

Triangle not drawn to scale.

Varied Fluency 3

Find the missing angle.



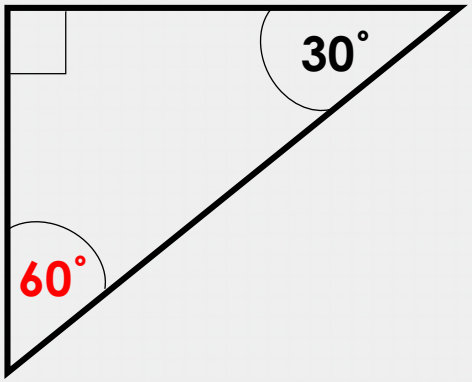
Triangle not drawn to scale.

Varied Fluency 3

Find the missing angle.

Remember that the total angles in a triangle add up to 180°, so to solve this problem you find the difference between the two known angles and 180.

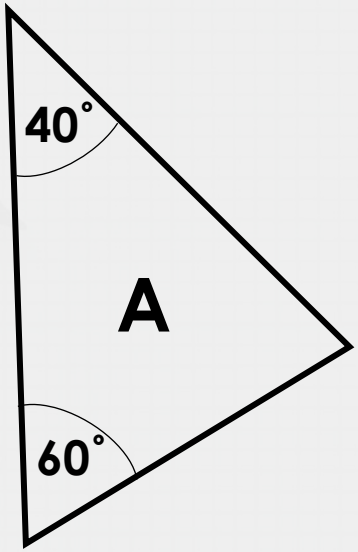
(90+30) -180 = 60

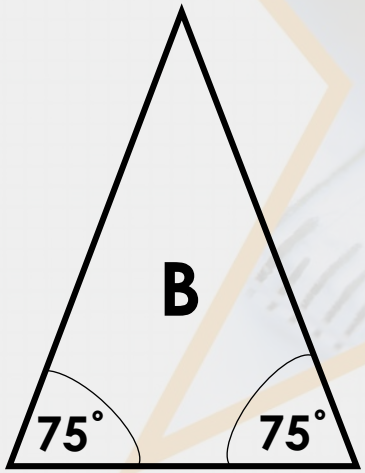


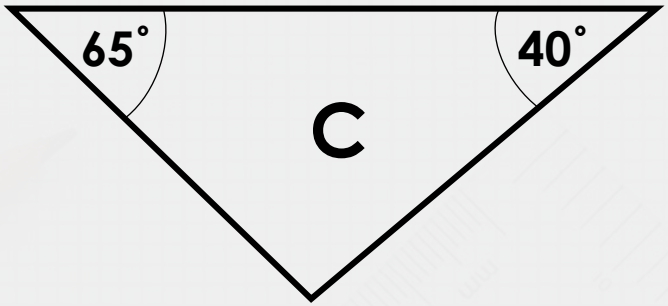
Triangle not drawn to scale.

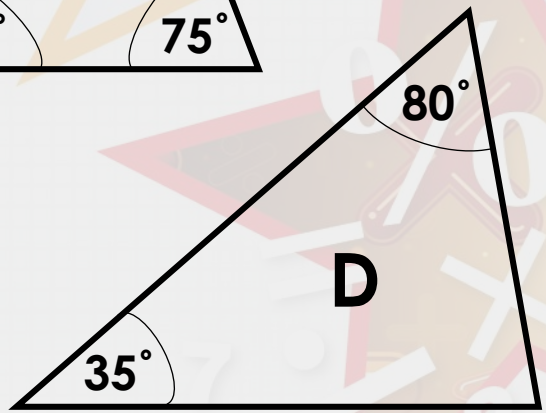
Varied Fluency 4

Which is the odd one out?





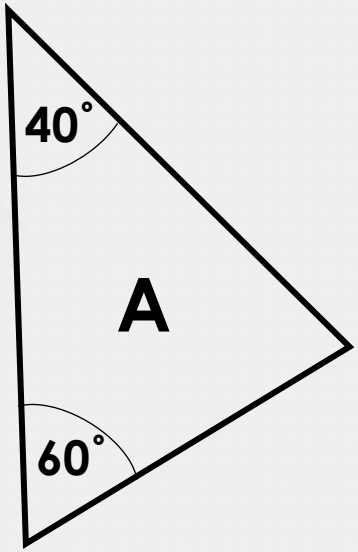


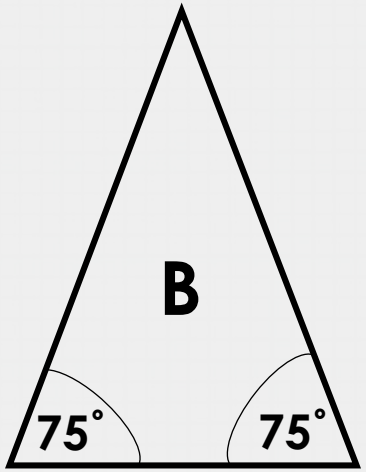


Triangles not drawn to scale.

Varied Fluency 4

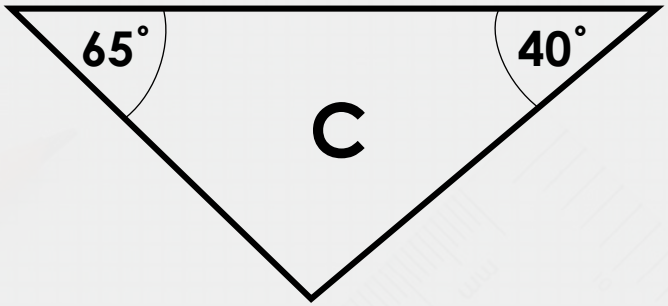
Which is the odd one out?

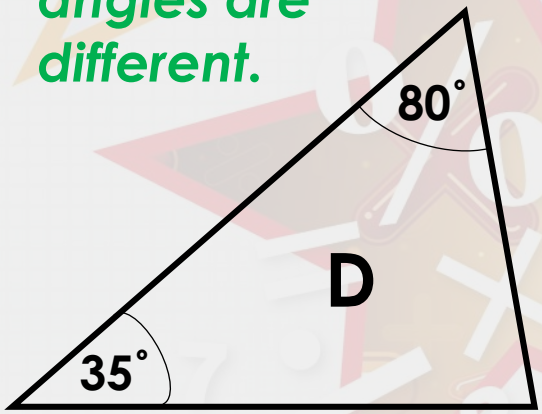




B is an isosceles triangle and the rest are scalene.

A scalene triangle is one where all of the angles are different.





Triangles not drawn to scale.

Part 3 – Reasoning

WALT Calculate Angles in a Triangle (lesson 1)

See my notes in green to help you.

Well done! It's over to you now.

Go to Part 2 and choose your challenge! Normal rules apply: page 1 will give you an easier challenge, page 2 will be about the same as what we've just practised and page 3 will be more of a stretch.

You only need to do the first set of questions on your chosen challenge – the 'A' questions. If you want extra practice, you can then do the 'B' questions of your chosen challenge page. When you finish, don't forget to mark your answers before sharing, so I can see where you need help.

Problem Solving 1

Use these clues to draw a triangle.

- **The triangle has a base of 4cm.**
- **Angle C is 80°.**
- **Angles A and B are the same.**

What kind of triangle have you drawn?

Problem Solving 1

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- **The triangle has a base of 4cm.**
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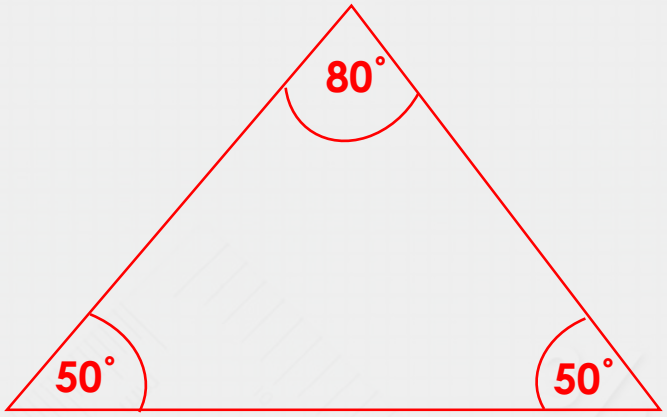
What kind of triangle have you drawn?

Isosceles triangle



Triangle not drawn to scale.

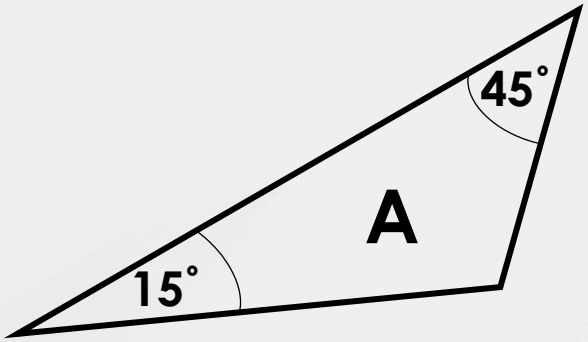
Problem Solving 2

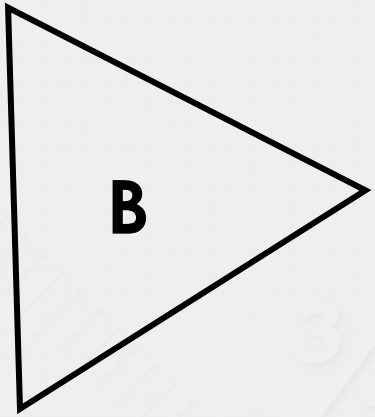
Match each triangle to the best description.

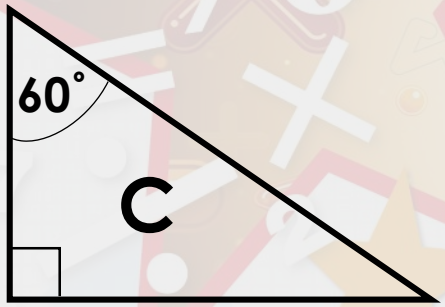
1. This triangle has three equal sides and angles.

2. This triangle is missing an obtuse angle.

3. This triangle's missing angle is half of it's marked acute angle.







Triangles not drawn to scale.

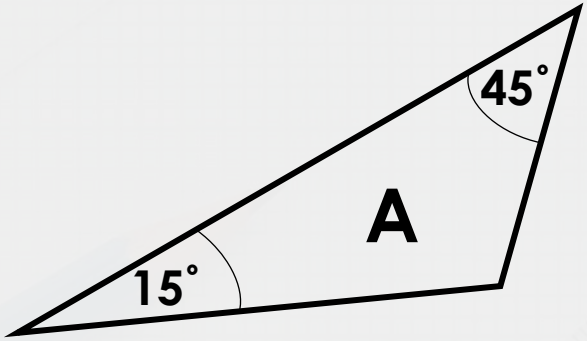
Problem Solving 2

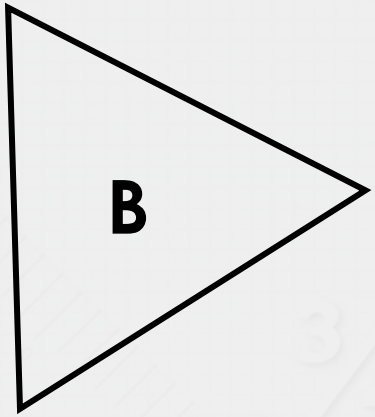
Match each triangle to the best description.

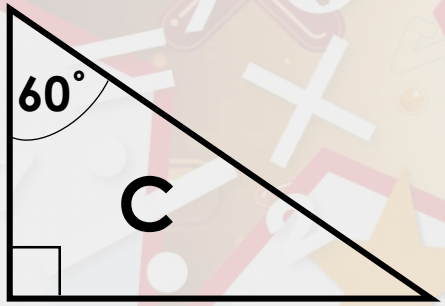
1. This triangle has three equal sides and angles. **B**

2. This triangle is missing an obtuse angle. **A**

3. This triangle's missing angle is half of it's marked acute angle. **C**







Triangles not drawn to scale.

Reasoning 1

Jameela says,

> **I have drawn an equilateral triangle. One side is 10 centimetres long and the angles measure 35°, 105° and 40°.**

Is she correct? Explain why or why not.

Reasoning 1

Jameela says,

> **I have drawn an equilateral triangle. One side is 10 centimetres long and the angles measure 35°, 105° and 40°.**

Is she correct? Explain why or why not.

Jameela is incorrect because...

Reasoning 1

Jameela says,

> **I have drawn an equilateral triangle. One side is 10 centimetres long and the angles measure 35°, 105° and 40°.**

Is she correct? Explain why or why not.

Jameela is incorrect because the three angles in her triangle are different sizes. She has drawn a scalene triangle.

Well done! It's over to you now.

Go to Part 4 and choose your Star Challenge! Normal rules apply: page 1 will give you an easier challenge, page 2 will be about the same as what we've just practised and page 3 will be more of a stretch.

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