

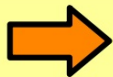
Lesson 1 - WALT recognise and compare 2D and 3D shapes



Lesson 2



Lesson 3 WALT: Compare and measure angles.



Lesson 4 WALT measure and draw angles.



WEEK 1 - MATHS



Marking Priorit
Best work to indepth
mark

Lesson 1

WALT recognise and compare 2D and 3D shapes

WALT recognise and compare 2D and 3D shapes

What is the difference
between 2D and 3D
shapes?

Vocabulary

2D

3D

Shapes

orientation

property

WALT recognise and compare 2D and 3D shapes

2D shapes have sides and corners, and are completely flat.

e.g. circles, triangles, squares etc

3D shapes have three dimensions - length, width and depth.

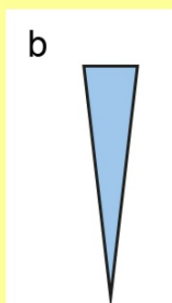
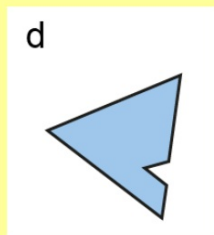
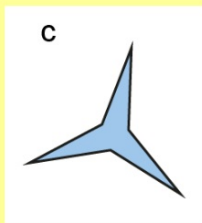
e.g. cubes, pyramids and spheres.

What other 2D and 3D shapes can you name?

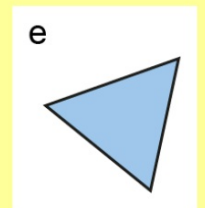
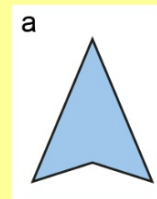
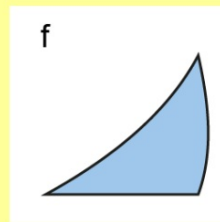
WALT recognise and compare 2D and 3D shapes

Which of these shapes are triangles? why?

Triangles



Non-triangles



WALT recognise and compare 2D and 3D shapes

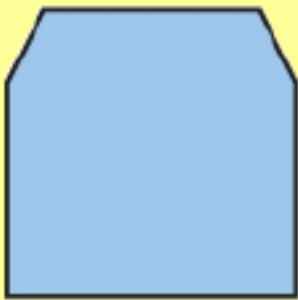
When we are comparing shapes we need to use specific vocabulary.

Sort the key vocabulary you would use for 2D and 3D shapes or both:

2D	3D
Both	
edges	vertices
Sides	vertex
	faces

WALT recognise and compare 2D and 3D shapes

Different ways of counting
the sides of 2D shapes:



- Running your finger along each side as you count.
- Marking the sides on the shape as you count.

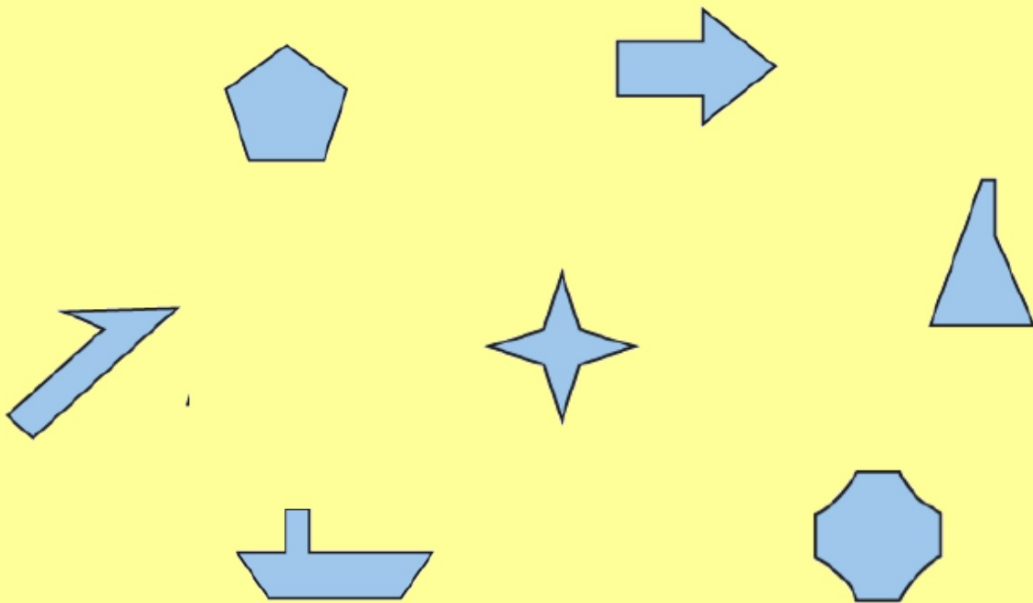
Make sure you accurately count the sides of the shapes and are only counting the sides one time.



Metacognitio

WALT recognise and compare 2D and 3D shapes

Count the sides of these shapes with your partner:



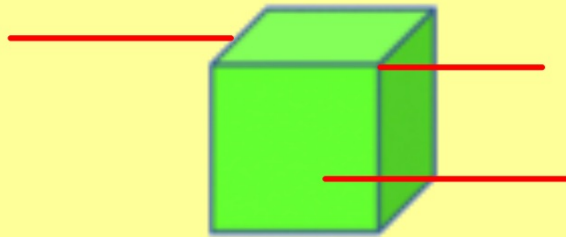
WALT recognise and compare 2D and 3D shapes

Label this shape:

Edges

Faces

Vertices



WALT recognise and compare 2D and 3D shapes

What are the properties of this shape?



Faces:

Edges:

Vertices:



Metacognitive

Faces: A face is a flat or curved surface on a 3D shape.

Edges: An edge is where two faces meet.

Vertices: A vertex is a corner where edges meet.

WALT recognise and compare 2D and 3D shapes

You are going to be given 2D and 3D shapes.

You need to write down all the properties of the shape.

Key words to use:

2D

3D

Side

Faces

Vertices

Edge

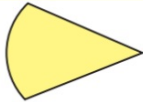
Bonus: Try to name the shape

WALT recognise and compare 2D and 3D shapes

I DO



My shape has three sides, so it is a triangle.



Why is Dora incorrect?



Working out box:

Metacognition



Understand - what is the question asking us?



Reflect - what maths knowledge do I already have?



Draw it - bar model,
part/whole. number line...

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This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is a margin at the top, and the entire sheet is framed by a thin black border.

WALT recognise and compare 2D and 3D shapes

Reasoning



Understand - what is the question asking us?







Reflect - what maths knowledge do I already have?

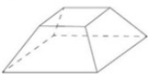


Draw it - bar model, part/whole, number line...

Here are diagrams of some 3-D shapes.
Tick each shape that has the same number of faces as vertices.


	Cube	<input type="checkbox"/>
	Square-based pyramid	<input type="checkbox"/>
	Triangular prism	<input type="checkbox"/>
	Triangular-based pyramid	<input type="checkbox"/>

Here is a drawing of a 3-D shape.



What could the question be?

Mina thinks of a 3-D shape.
She says,
*'It has 5 faces.
Two opposite faces are triangles.
The other faces are rectangles.'*



What is the name of the 3-D shape?

Jack has two **square-based pyramids** that are the same size.
He sticks the square faces together to make a new 3-D shape.
How many **faces** and how many **edges** does his new 3-D shape have?

<input type="text"/>	faces	and	<input type="text"/>	edges
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WALT recognise and compare 2D and 3D shapes

Plenary



Day 2

ADD ALISON

Day 3

WALT: Compare and measure angles.

WALT: Compare and measure angles.

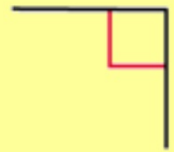
Can you define these key words?



Vocabulary:

acute angle
obtuse angle
right angle
reflex angle
straight line
protractor
estimate

Match up the definition and the diagram to the different types of angles:



Acute angle

The angle is 90°

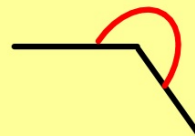
Right angle



The angle is less than 90°

Obtuse angle

The angle is greater than 90° but less than 180°



Reflex angle

The angle is greater than 180° but less than 360°

WALT: Compare and measure angles.

Discuss this with your partner:

Complete the sentences.

Use the word bank to help you.

90

180

greater

less

- a) A right angle is degrees.
- b) An acute angle is _____ than degrees.
- c) An obtuse angle is _____ than degrees
but less than degrees.

WALT: Compare and measure angles.

Language focus

"An acute angle is smaller than a right angle."

"An obtuse angle is larger than a right angle but less than the angle on a straight line."

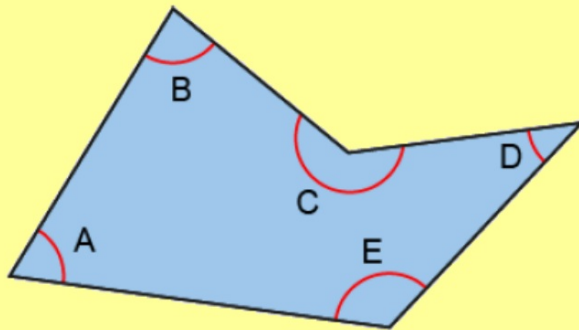
"A reflex angle is larger than the angle on a straight line, but less than the angle for a full turn."



Let's compare these angles using our language:

For example:

D is the smallest angle. It is an acute angle.



C is the largest angle. It is a reflex angle.

WALT: Compare and measure angles.

Language focus

"An acute angle is smaller than a right angle."

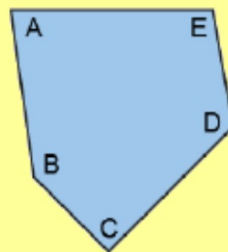
"An obtuse angle is larger than a right angle but less than the angle on a straight line."

"A reflex angle is larger than the angle on a straight line, but less than the angle for a full turn."



Let's compare these angles using our language:

Here is an irregular pentagon.

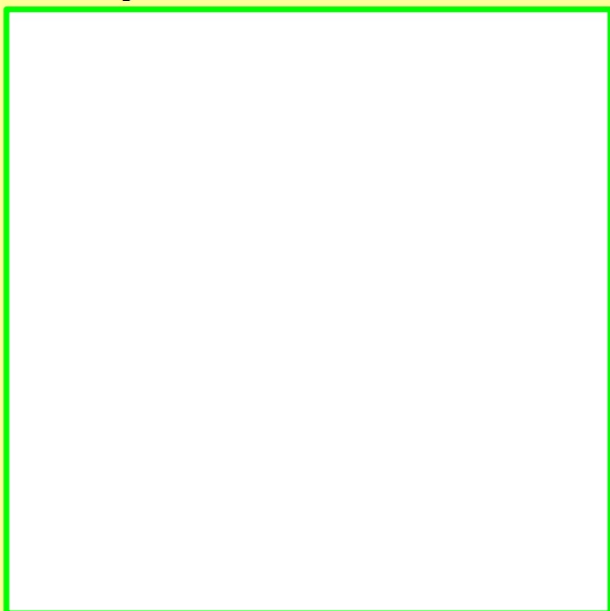


- Which is the largest angle in this pentagon?
- Which is the smallest angle?
- Which angle is 100° ?

WALT: Compare and measure angles.

Which angle is larger?
Why?

1.



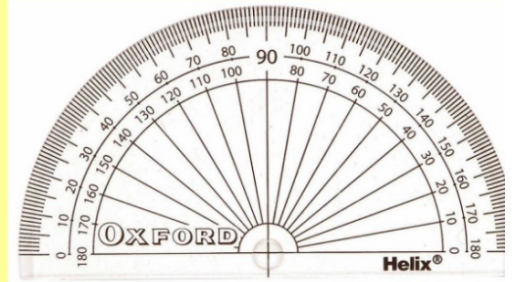
Which angle is larger?
Why?

2.

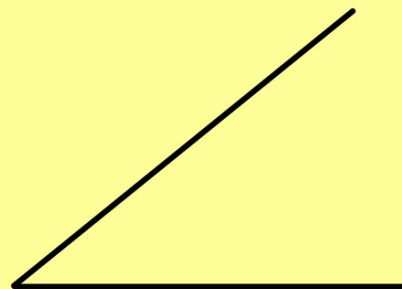
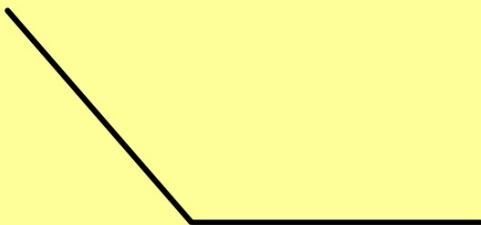


WALT: Compare and measure angles.

We can use protractors to measure angles accurately.



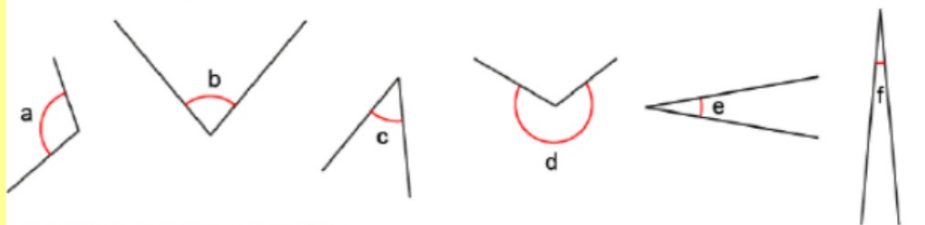
Teacher to get the protractor tool and model how to measure the angle:



WALT: Compare and measure angles.

Challenge:

Here are 6 angles.



- Which is the largest angle?
- Which is the smallest angle?



Mega challenge:

Odd one out.

180°

45°

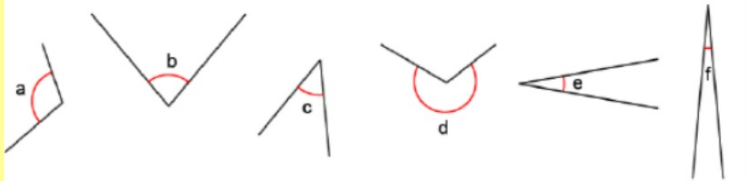
79°

225°

Explain why.

Challenge:

Here are 6 angles.



- a. Which is the largest angle?
b. Which is the smallest angle?

- 1) d
2) f

Mega Challenge:

Odd one out.

180°

45°

79°

225°

Explain why.

Teacher to check

If you correctly answered all of the mega challenge question, move on to fluency.

If you did not answer all the mega challenge correctly, stay with me to learn more.

WALT: Compare and measure angles.

Compare and order angles

1 Here are two angles.

a) Which angle is obtuse? _____
 b) Which angle is acute? _____
 How do you know? _____

2 Here are two angles.

a) What type of angle is angle X? _____
 b) What type of angle is angle Y? _____
 c) Which angle is smaller? _____
 How do you know? _____

3 Circle the greatest angle in each diagram.

4 Here is an angle.

a) Draw a smaller angle than 105° in the box on the left.
 b) Draw a greater angle than 105° in the box on the right.
 c) Is this statement true or false?
 The angles are in ascending order of size.
 Explain your answer. _____

5 Order the angles from greatest to smallest.

b)

c)

6 Four angles are labelled in the quadrilateral.

a) Which of the angles are acute angles? _____
 b) Which of the angles are obtuse angles? _____
 c) Write the angles in order of size, starting with the smallest.

7 An interior angle is marked in each polygon.

Order the interior angles of the polygons from smallest to greatest.

What do you notice about the number of sides a polygon has and the size of its interior angle?

Measure Angles

Measure the following angles:

1.

2.

3.

4.

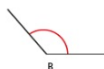
When you have finished, you can get a protractor and measure some angles. Then you can make some of your own for your partner to measure.

Answers:

Compare and order angles



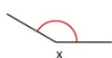
1 Here are two angles.



- a) Which angle is obtuse?
b) Which angle is acute?
How do you know?

B
A

2 Here are two angles.



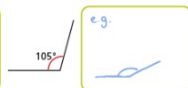
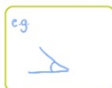
- a) What type of angle is angle X?
b) What type of angle is angle Y?
c) Which angle is smaller?
How do you know?

obtuse
acute
Y

3 Circle the greatest angle in each diagram.

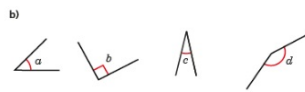


4 Here is an angle.

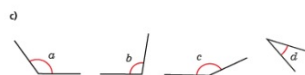
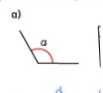


- a) Draw a smaller angle than 105° in the box on the left.
b) Draw a greater angle than 105° in the box on the right.
c) Is this statement:
The angles are 1

Explain your answer



5 Order the angles from



a d b c

6 Compare and order the angles from smallest to greatest.



a d b f c e

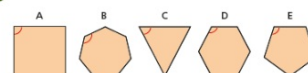
7 Four angles are labelled in the quadrilateral.



- a) Which of the angles are acute angles?
b) Which of the angles are obtuse angles?
c) Write the angles in order of size, starting with the smallest.

l m
k
l m j k

8 An interior angle is marked in each polygon.



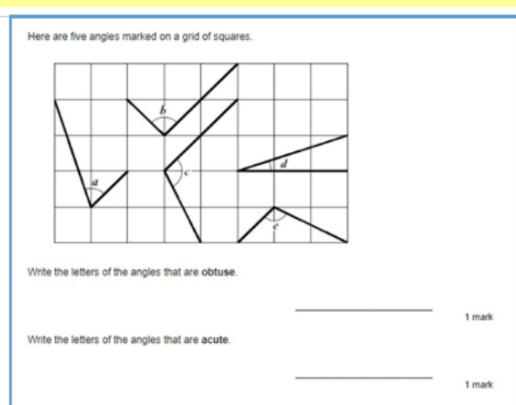
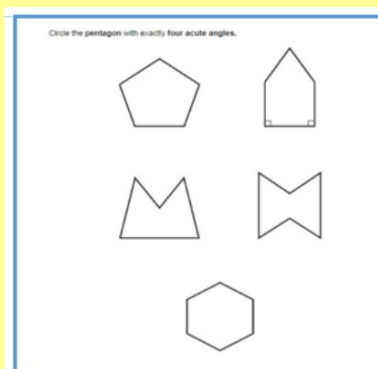
Order the interior angles of the polygons from smallest to greatest.

C A E D B

What do you notice about the number of sides a polygon has and the size of its interior angle?

WALT: Compare and measure angles.

Reasoning



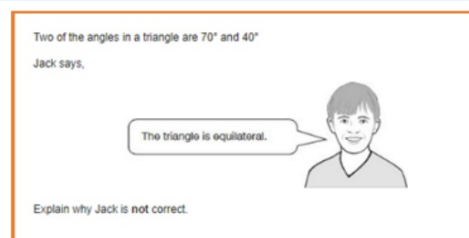
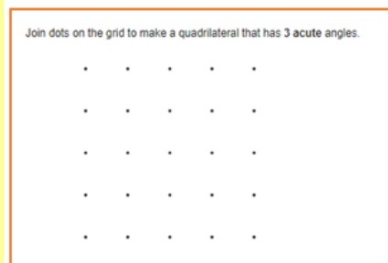
Understand - what is the question asking us?



Reflect - what maths knowledge do I already have?



Draw it - bar model,
part/whole number line...

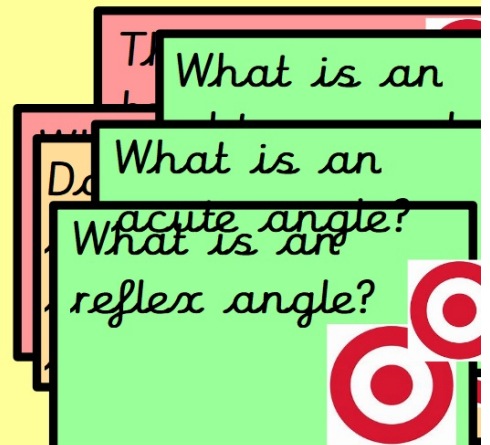


Lesson 4

WALT measure and draw angles.

WALT measure and draw angles.

Pick a card.
Any card!



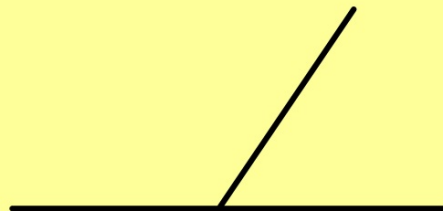
WALT measure and draw angles.

Today we are going to measure and draw angles.



We are going to be using protractors to help us.

Teacher to get the protractor tool and model how to measure the angle:



Protractor game:



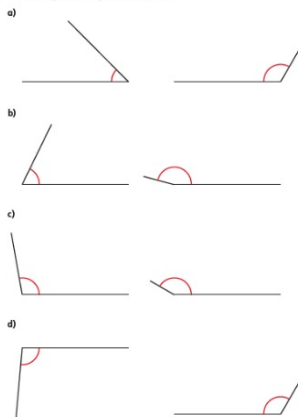
WALT measure and draw angles.

Fluency

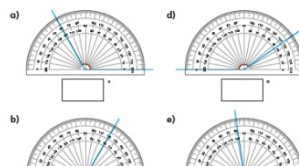
15 minutes

Measuring with a protractor (2)

1 Circle the greater angle in each pair.



2 What is the size of the angle marked in each diagram?

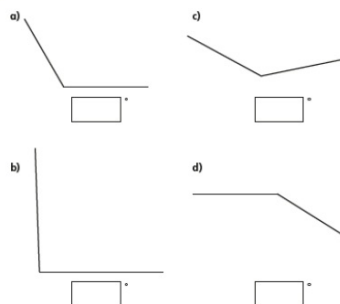


4 Scott is trying to measure the obtuse angle.

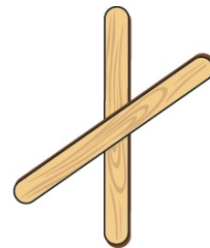


What mistake has Scott made?

5 Measure each of the angles.



6 Eva puts one ice-lolly stick over another ice-lolly stick.



a) Estimate the size of the largest angle between the two ice-lolly sticks.

My estimate is °.

b) Measure the angle to check your estimate.

The actual measurement is °.

c) Measure the size of each of the angles formed by the ice-lolly sticks and label them on the diagram.

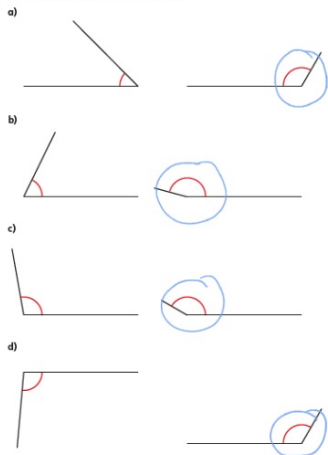
d) Use ice-lolly sticks to create different sized angles and measure them.

Fluency answers

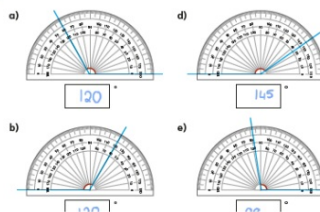
Measuring with a protractor (2)

White Rose Maths

1 Circle the greater angle in each pair.



2 What is the size of the angle marked in each diagram?



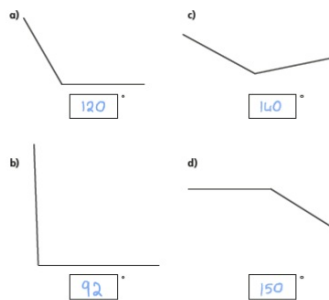
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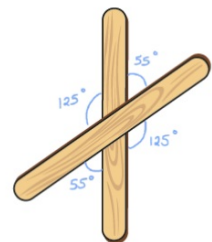
What mistake has Scott made?

The protractor isn't lined up with one of the lines from the angle so he can't measure from 0.

5 Measure each of the angles.



6 Eva puts one ice-lolly stick over another ice-lolly stick.



a) Estimate the size of the largest angle between the two ice-lolly sticks.

My estimate is 125 degrees.

b) Measure the angle to check your estimate.

The actual measurement is 125 degrees.

c) Measure the size of each of the angles formed by the ice-lolly sticks and label them on the diagram.

d) Use ice-lolly sticks to create different sized angles and measure them.

WALT measure and draw angles.

We are going to be using protractors to help us.

Teacher to get the protractor tool and model how to draw angles:

20°

75°

150°

Drawing angles game:



WALT measure and draw angles.

Fluency

15 minutes

Drawing lines and angles accurately

- 1 Draw each of the angles accurately.
Use the line provided as part of your angle.
- a) 60 degrees

b) 85°

c) 110°

d) 143°

- 2 Dexter is asked to draw an angle of 30 degrees.
He marks a point as shown.



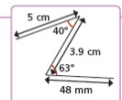
- 4 Draw three angles that all measure 55°.
Each angle should be in a different orientation.



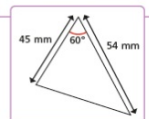
- 5 Draw these lines and angles accurately using a ruler and protractor.



- 6 Make an accurate drawing of the shape.



- 7 Draw the triangle accurately and work out its perimeter.



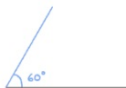
perimeter = mm

Fluency answers

Drawing lines and angles accurately

- 1 Draw each of the angles accurately.
Use the line provided as part of your angle.

a) 60 degrees



b) 85°



c) 110°



d) 143°



- 2 Dexter is asked to draw an angle of 30 degrees.
He marks a point as shown.



What mistake has Dexter made?

He has used the wrong scale on the protractor

- 3 Draw an angle.
Use the lines to



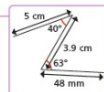
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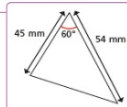
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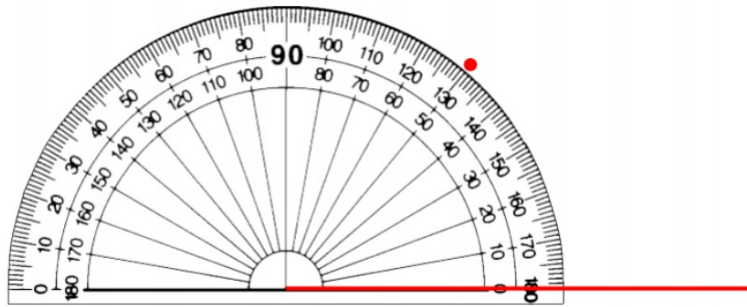
perimeter = 150 mm

WALT measure and draw angles.

Plenary:



If I draw a line from the dot to the left end of the line it will make a 50° angle.





Understand



Communicate



Reflect

