Maths week beginning 22/02/21

Learning objectives

Monday: To identify parts of a circle

Tuesday: 10410

Wednesday: To calculate the area of a triangle

Thursday: To calculate angles on a straight line

Friday: To calculate angles around a point

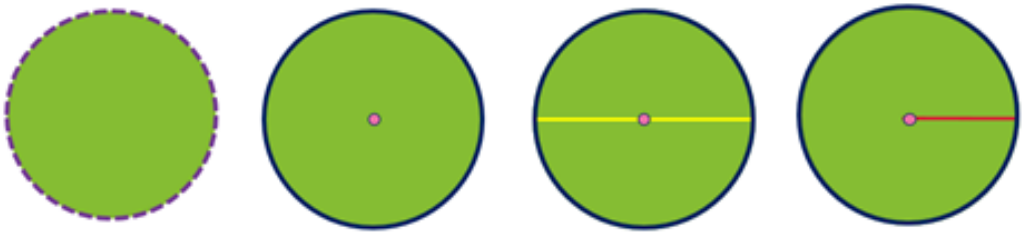
Monday

L.O: To identify parts of a circle

First things first...

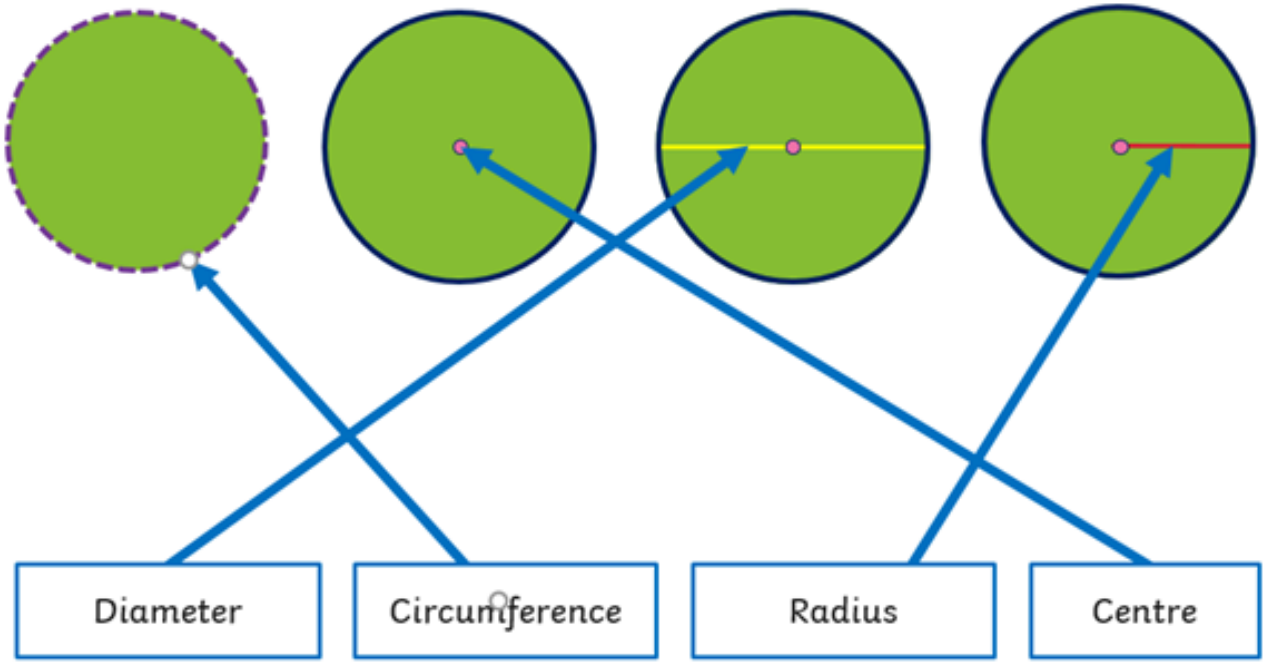
There are a few changes this week to where you need to save your work.

Match the name of the part of the circle to the correct diagram.

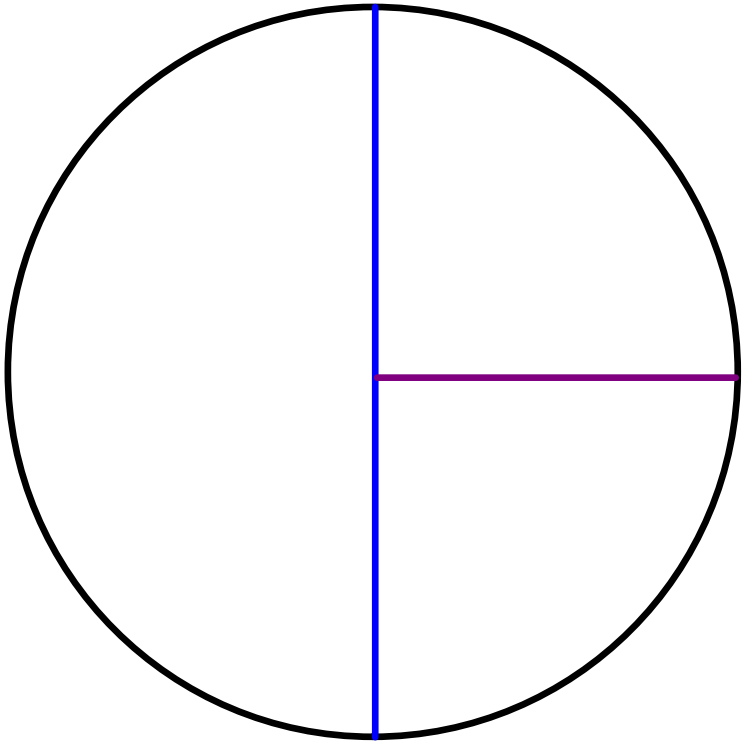


Diameter | Circumference | Radius | Centre

Match the name of the part of the circle to the correct diagram.



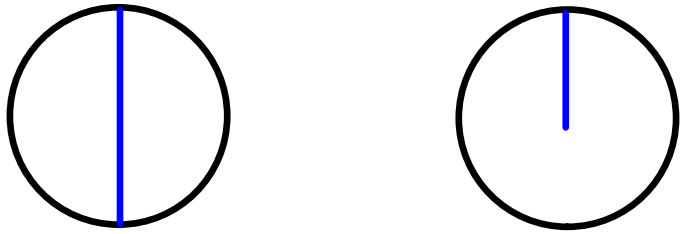
Remember that the radius and the diameter both meet the centre



The radius is a line from the centre of the circle to the edge.

The diameter is a line from one side of the circle to the opposite side which passes thorugh the centre.

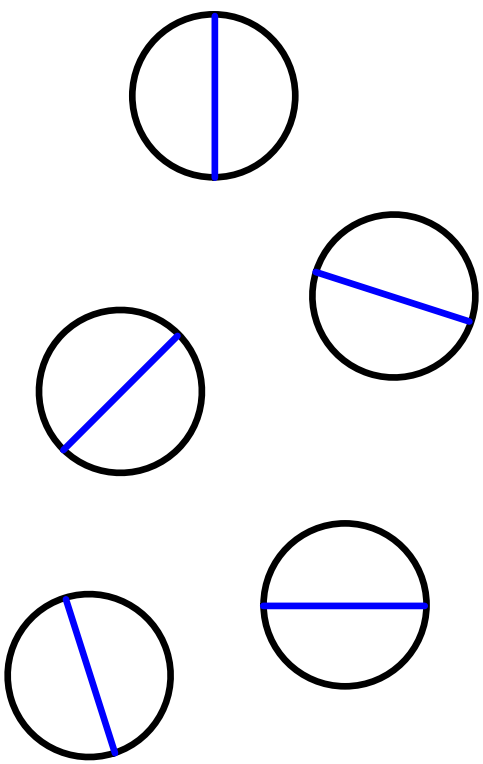
The circumference is the perimeter of a circle.

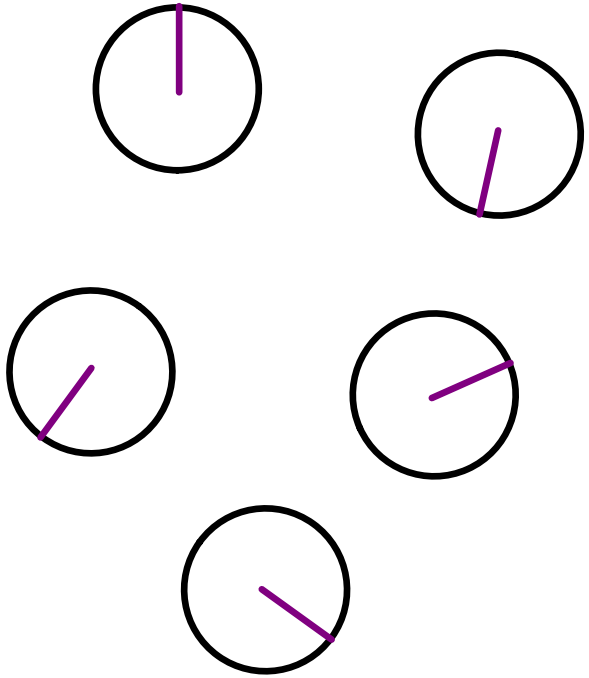


The radius of a circle is half the diameter.

The diameter of a circle is double the radius.

There are different ways to show the diameter and the radius.



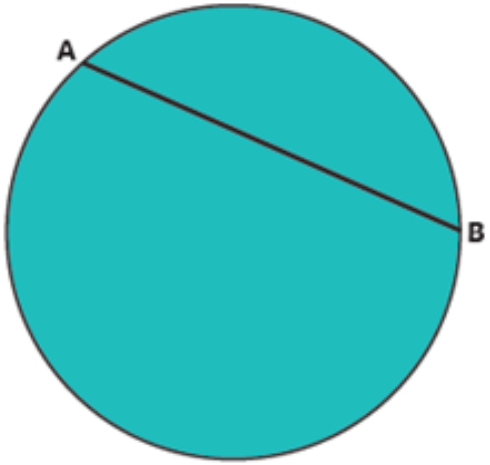


1) Jack says this is the diameter of the circle.
Kia says this is the radius of the circle.

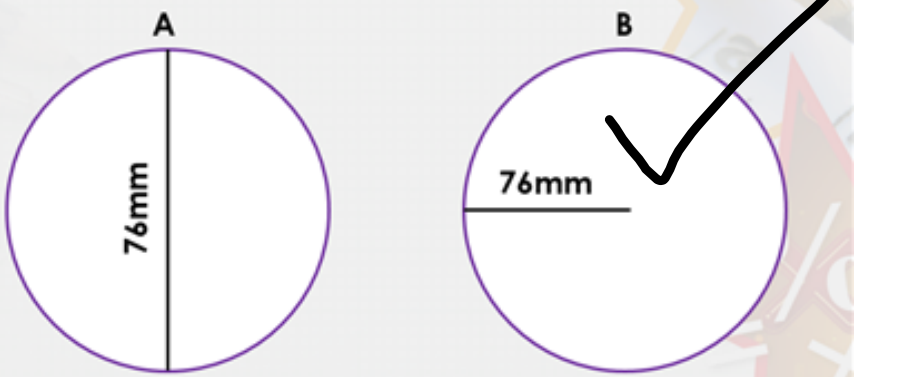
Who do you agree with?
Explain your answer.

Jack

Kia



Tick the circle which has a radius of 76mm.



1) A plate has a radius of 12cm. Find the diameter.

2) A tyre has a diameter of 1m. Find the radius.

1) 12cm × 2 = 24 cm

2) 1m ÷ 2 = 0.5 m

= 50 cm

Can you fill in the missing numbers?

1 cm = mm

1m = cm

1km = m

Can you fill in the missing numbers?

1 cm = 10 mm

1m = 100 cm

1km = 1,000 m

Task

1) Fill in your Maths diary on purplemash.

2) Pick either task 1 or 2 to complete.

Task 1 (Less challenging)

Complete the table

Radius	Diameter
10 cm	
20cm	
23cm	
	98 cm
	44 cm
	70 cm
45 cm	
	8cm
63cm	

Task 2 (More challenging)

1) The diameter of a pizza is 43cm. What is the radius in cm?

2) The radius of a coin is 5mm. What is the diameter in cm?

3) The diameter of a wheel is 0.8m. What is the radius in m?

4) The diameter of Saturn's rings is 270,000km. What is the radius in km?

5) The radius of a frisbee is 18cm. What is the diameter in mm?

6) The radius of a biscuit is 23mm. What is the diameter in cm?

Extra challenge: Pick two questions and write the diameters in mm, cm, m and km.

Challenge

The number 'pi', written π, is used to explain the relationship between a circle's diameter and circumference. Find out what pi is, round it to two decimal places, and use it to approximate the circumference of three of the circles you have looked at today.

Challenge Hint

Circumference = π x diameter

The first 12 digits of pi are 3.14159265358.

Task 1 (Less challenging)

Complete the table

Radius	Diameter
10 cm	20cm
20cm	40cm
23cm	46cm
49cm	98 cm
22cm	44 cm
35cm	70 cm
45 cm	22.5cm
4cm	8cm
63cm	126cm

Task 2 (More challenging)

1) The diameter of a pizza is 43cm. What is the radius in cm? 21.5cm

2) The radius of a coin is 5mm. What is the diameter in cm? 1cm

3) The diameter of a wheel is 0.8m. What is the radius in m? 0.4m

4) The diameter of Saturn's rings is 270,000km. What is the radius in km? 135,000km

5) The radius of a frisbee is 18cm. What is the diameter in mm? 360mm

6) The radius of a biscuit is 23mm. What is the diameter in cm? 4.6cm

Extra challenge: Pick two questions and write the diameters in mm, cm, m and km.

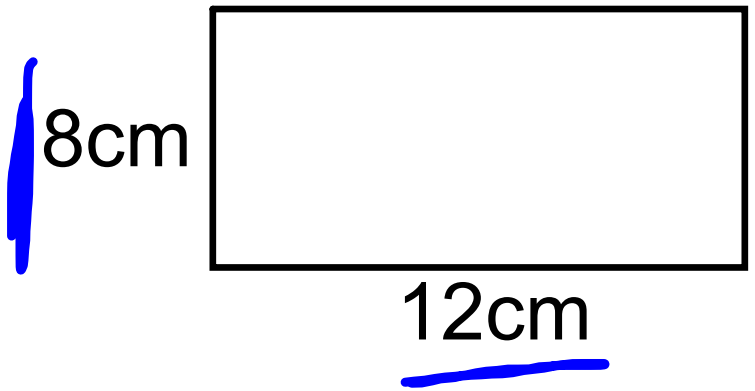
Tuesday

10410 on purplemash

Wednesday

L.O: To calculate the are of a triangle

What is the area of this rectangle?



Wednesday

L.O: To calculate the are of a triangle

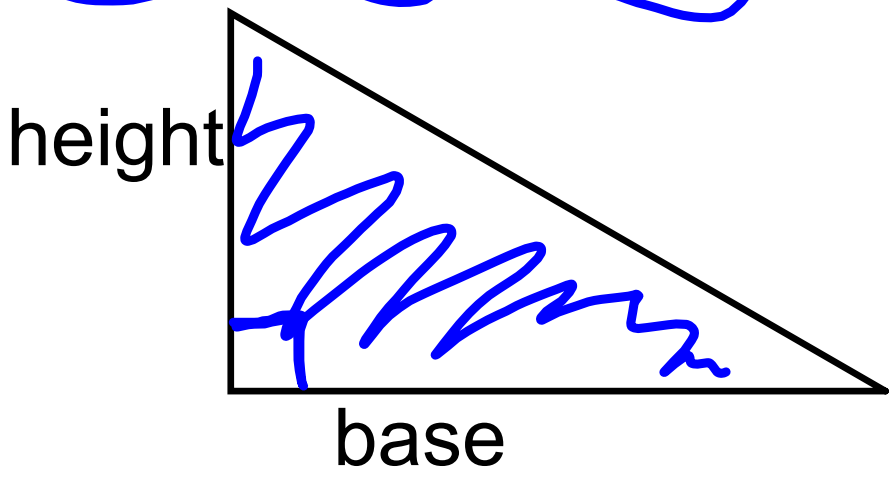
What is the area of this rectangle?

8cm x 12cm

=96cm^2

For a right angle triangle, we can use this formula:

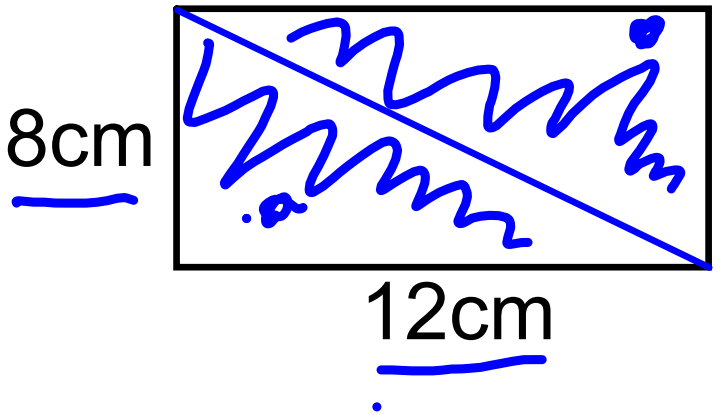
area = 1/2 x base x height



For a right angle triangle, we can use this formula:

12 x 8

area = 1/2 x base x height



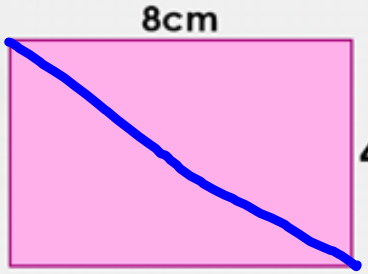
8cm x 12cm

=96cm^2

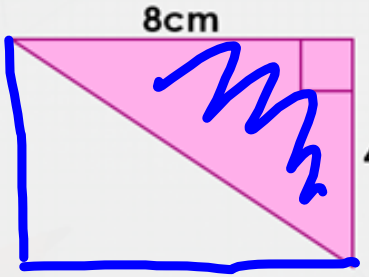
So the area of a triangle with a height of 8cm and base of 12cm is

1/2 x 96cm^2 = 48cm^2

Use the area of the rectangle to calculate the area of the triangle.



Area = 32 cm²

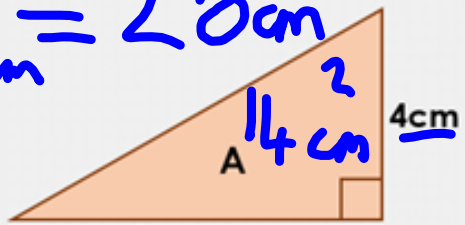


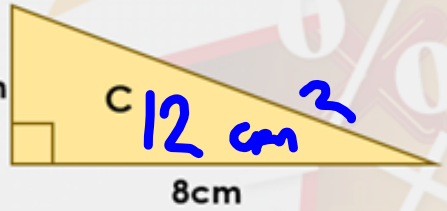
Area = 16 cm²

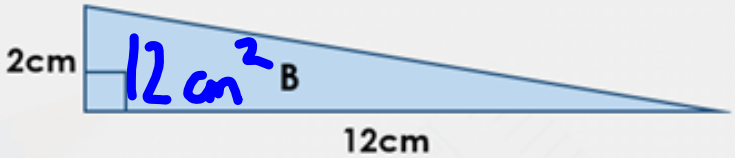
Calculate the areas of the triangles below and circle the triangle that has a different area.

$$\text{area} = \frac{\text{base x height}}{2}$$

$4 \times 7 = 28\text{cm}^2$

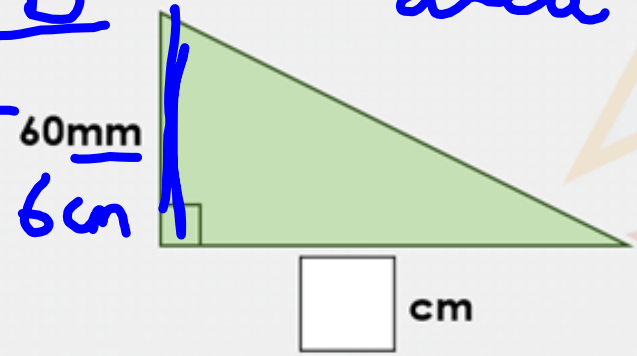






The area of the triangle is 36cm².
Using the formula, find the length of the missing side.

$$\text{area} = \frac{\text{base} \times \text{height}}{2}$$



Write your answer in cm.

$36 = \frac{6 \times b}{2}$

$36 = 3b$

$12 = b$

$\text{area} = \frac{12 \times 6}{2}$

$= \frac{72}{2}$

$= 36\text{cm}^2$

We can use an inverse operation to solve this!

Reminder:

10mm = 1cm

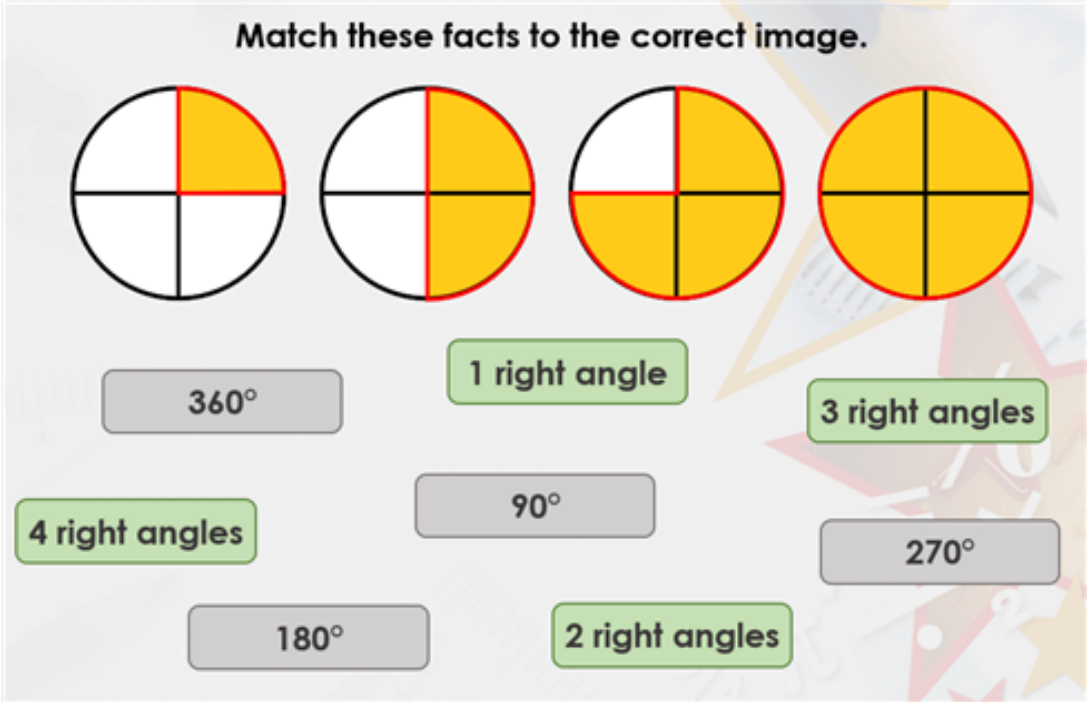
Task

1) Answer the Maths question on purplemash

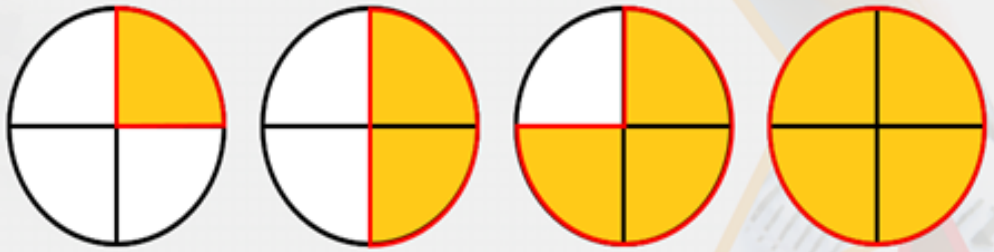
2) Choose one of the sheets and complete the questions. You have the option of least challenging, more challenging and most challenging, so decide how confident you feel and go from there.

Thursday

L.O: To calculate angles on a straight line

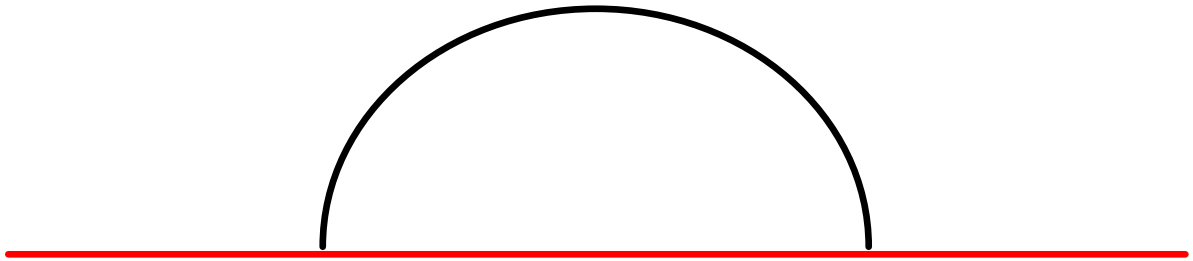


Match these facts to the correct image.

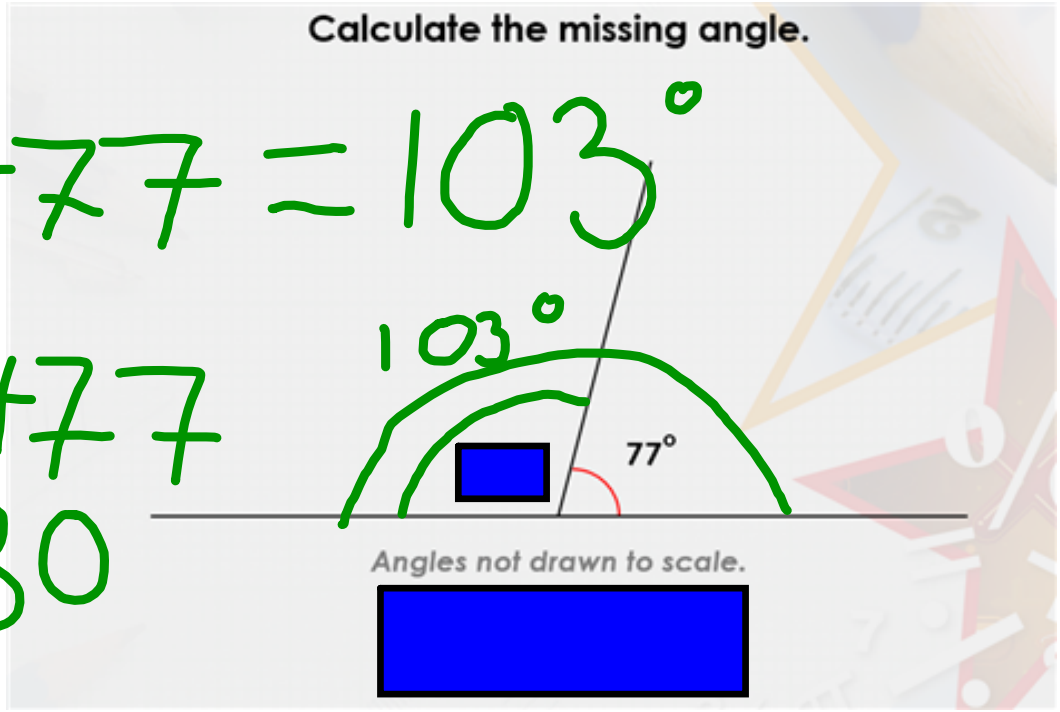


90°	180°	270°	360°
1 right angle	2 right angles	3 right angles	4 right angles

Angles on a straight line add up to 180°.



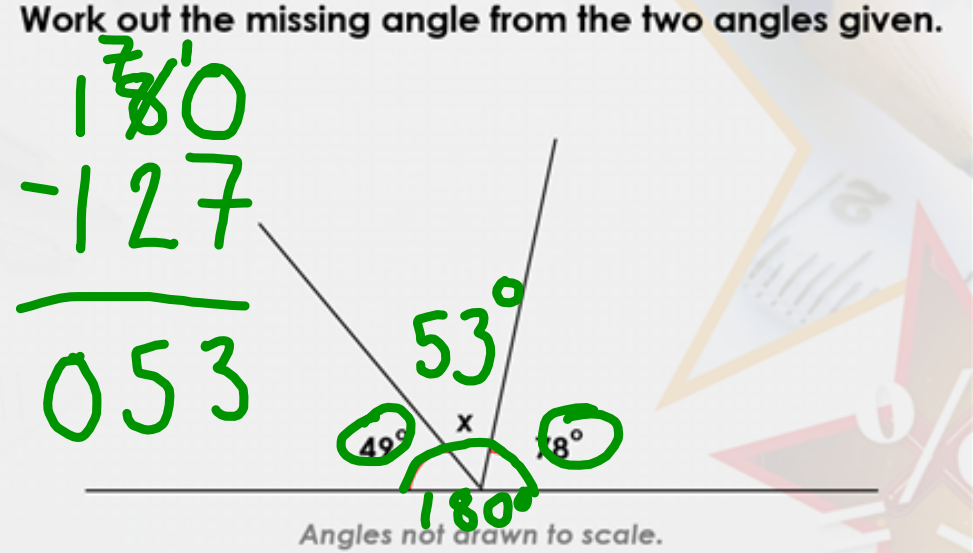
You can think of this as doing half a turn.


Calculate the missing angle.
180-77=103°
103+77
=180
103°
77°
Angles not drawn to scale.

49
78
127°
1

Work out the missing angle from the two angles given.

180
-127
053



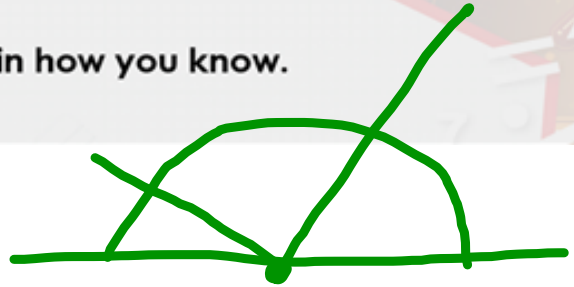
Angles not drawn to scale.

Rhys is measuring angles on a straight line.
He says:

There are three angles on the line. One is 100°, one is 15° and the other is 55°.

170

Could he be right? Explain how you know.



180°

Task

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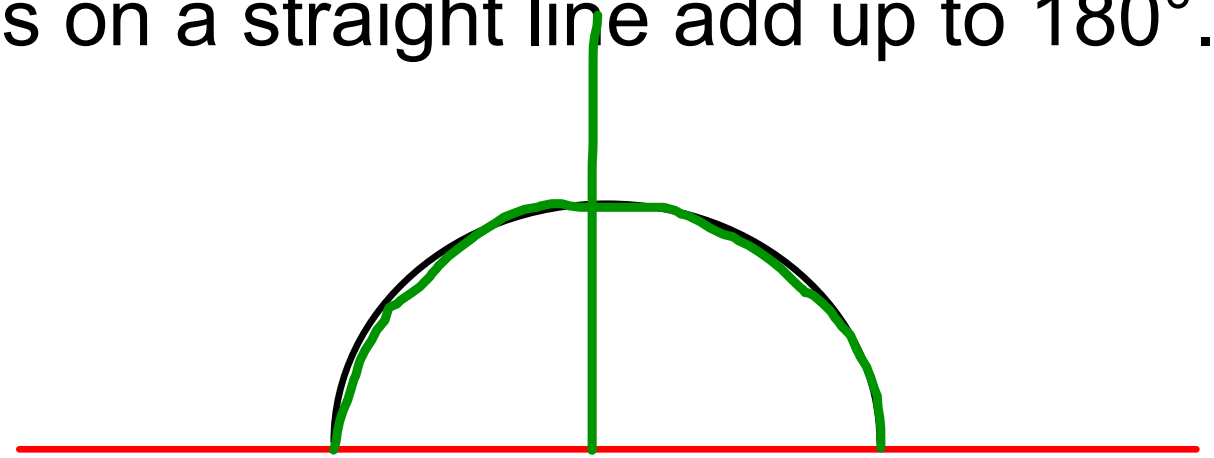
2) Choose one of the sheets and complete the questions. You have the option of least challenging, more challenging and most challenging, so decide how confident you feel and go from there.

Friday

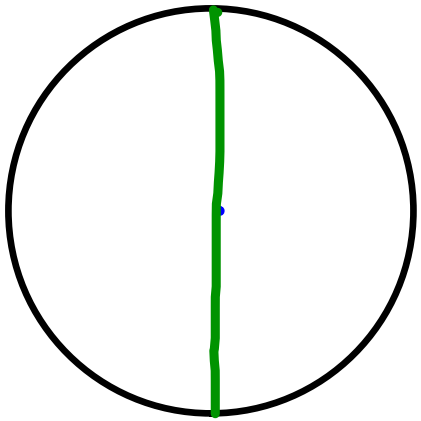
L.O: To calculate angles around a point

How many degrees is the angle on a straight line?

Angles on a straight line add up to 180°.

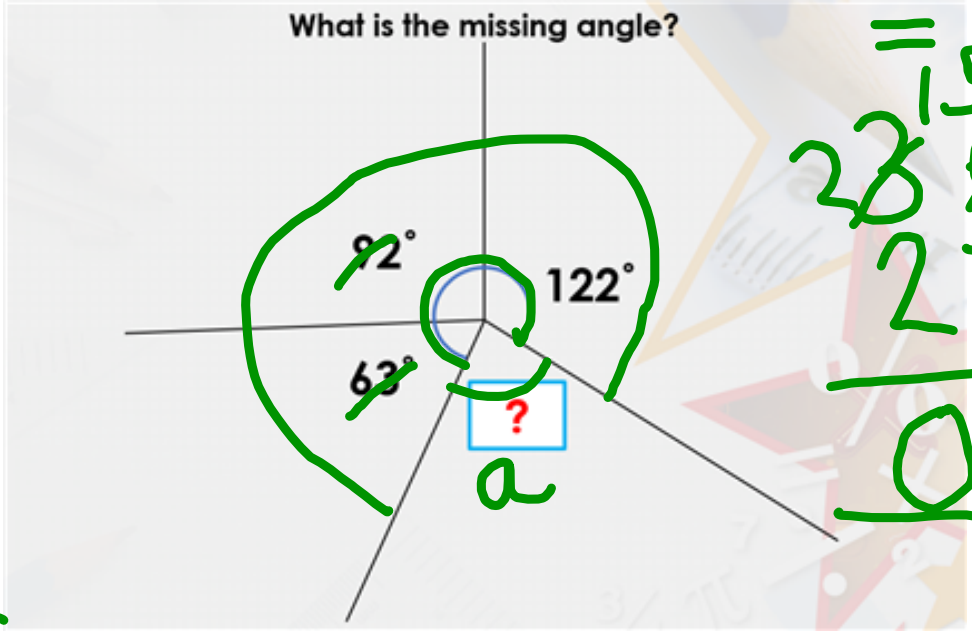


Angles around a point add up to 360°. You can think of this as doing a full turn.



92
63
155

155
122
277°



277+a=360
=15
2360
277
083°

Use the hints to work out the angles.

360°

Four angles make up a full turn.

30°

Angle A is a third of a right angle.

120°

Angle B is 4 times angle A.

90°

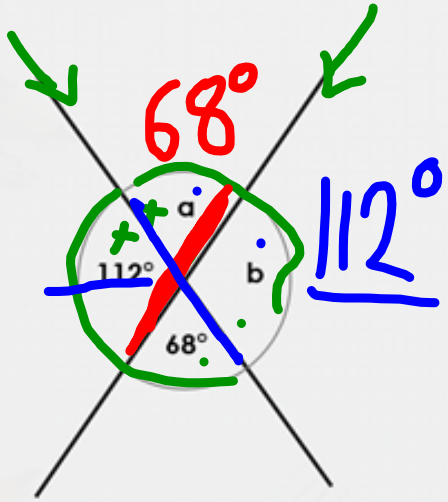
Angle C is a right angle.

120°

Angle D is equal to angle B.

What are the 4 angles?

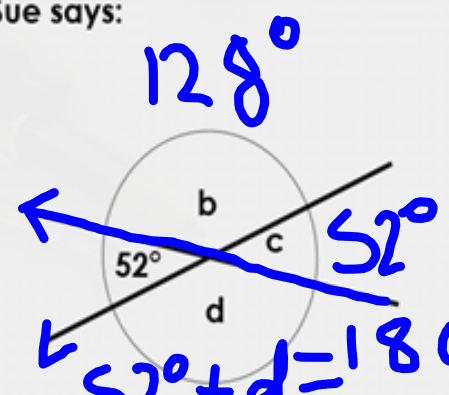
Calculate the missing angles.



a =

b =

Sue says:



128°

52°

52° + d = 180°

d = 128°

I think that angle d measures 154°.

Is Sue correct? Explain why.

Task

1) Answer the Maths question on purplemash

2) Choose one of the sheets and complete the questions. You have the option of least challenging, more challenging and most challenging, so decide how confident you feel and go from there.

360°