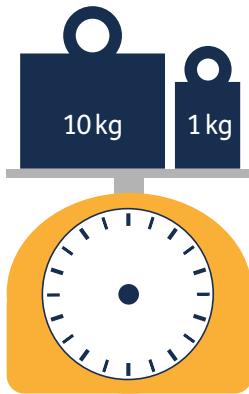


Mass and capacity

Question 1

Here are some weights on some sets of scales. What should the scales read?

a


 kg

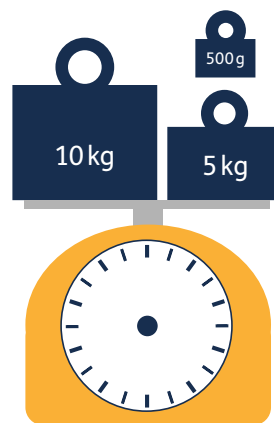
b


 kg

c

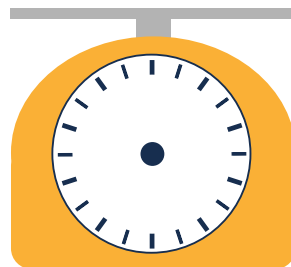
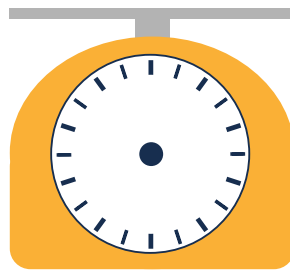

 kg and g

d


 kg and g


Mass and capacity

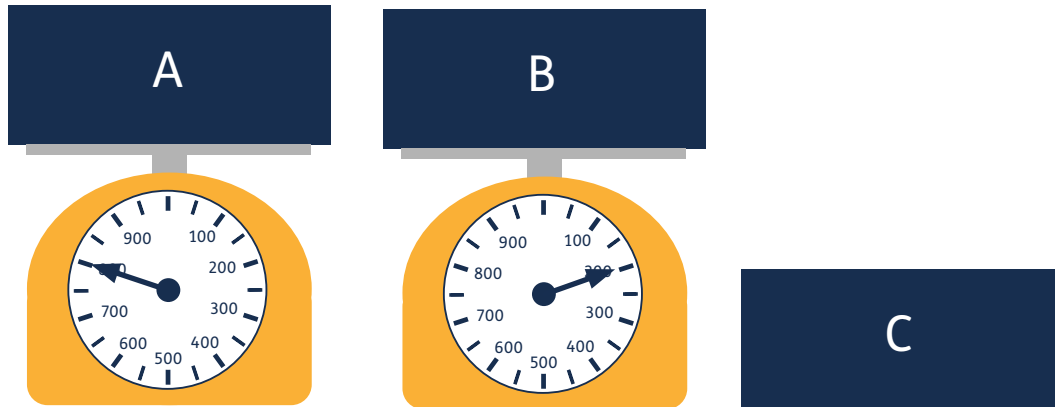
- e Can you use weights to show two different ways to draw 17 kg 500 g on the scales below? You can use some of the same weights for both.



Mass and capacity

Question 2

Here are some boxes being weighed.



Can you complete these sentences?

- a** Box A is _____ than Box B. lighter/heavier
- b** Box B is _____ than Box A. lighter/heavier

Box C weighs more than Box B but less than Box A.

- c** Suggest three possible weights for Box C.



Mass and capacity

Question 3

Can you compare these quantities? Use $<$, $>$, or $=$.

a 500 g of flour

5 kg of flour

b 1,000 g of potatoes

2 kg of rice

c 1,199 g bag of rice

1 kg bag of rice

d 12 kg weight

1,200 kg car

e 357 g tin of beans

357 g bucket of sand



Mass and capacity

Question 4

Can you complete these additions and subtractions?

a $25 \text{ g} + 75 \text{ g} = \boxed{} \text{ g}$

b $1 \text{ kg} + 35 \text{ kg} = \boxed{} \text{ kg}$

c $36 \text{ g} + 136 \text{ g} = \boxed{} \text{ g}$

d $430 \text{ g} + 72 \text{ g} = \boxed{} \text{ g}$

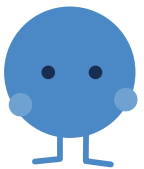
e $100 \text{ g} - 72 \text{ g} = \boxed{} \text{ g}$

f $25 \text{ kg} - 17 \text{ kg} = \boxed{} \text{ kg}$

g $350 \text{ g} - 275 \text{ g} = \boxed{} \text{ g}$

h $150 \text{ kg} - 62 \text{ kg} = \boxed{} \text{ kg}$

Question 5

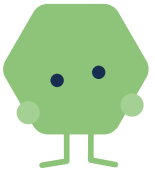


At the fruit stall,
plums weigh 30 g
and apples weigh
50 g.

I buy three plums
and two apples.
What mass of fruit
have I bought?

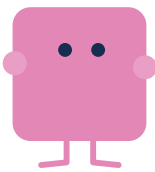


Mass and capacity



At the post office, Paisley is sending three parcels. One weighs 4 kg, one weighs 450 g, and one weighs 1 kg and 200 g.

How much do her parcels weigh altogether?



June's school bag weighs 900 g with her pencil case and glasses case inside. Her pencil case weighs 450 g and her glasses case weighs 150 g. How much does her empty bag weigh?



Mass and capacity

Question 6

Complete these additions and subtractions.

a $1 \text{ kg and } 50 \text{ g} + 10 \text{ kg and } 500 \text{ g} = \boxed{} \text{ kg and } \boxed{} \text{ g}$

b $3 \text{ kg and } 500 \text{ g} + 2 \text{ kg and } 350 \text{ g} = \boxed{} \text{ kg and } \boxed{} \text{ g}$

c $6 \text{ kg and } 400 \text{ g} - 4 \text{ kg and } 100 \text{ g} = \boxed{} \text{ kg and } \boxed{} \text{ g}$

d $3 \text{ kg and } 700 \text{ g} - 1 \text{ kg and } 650 \text{ g} = \boxed{} \text{ kg and } \boxed{} \text{ g}$

Question 7

Match these objects with their capacity.

A bathtub

6,000 litres

A teaspoon

330 ml

A can of fizzy drink

6 ml

A teacup

10 litres

A bucket

80 litres

A pool

125 ml

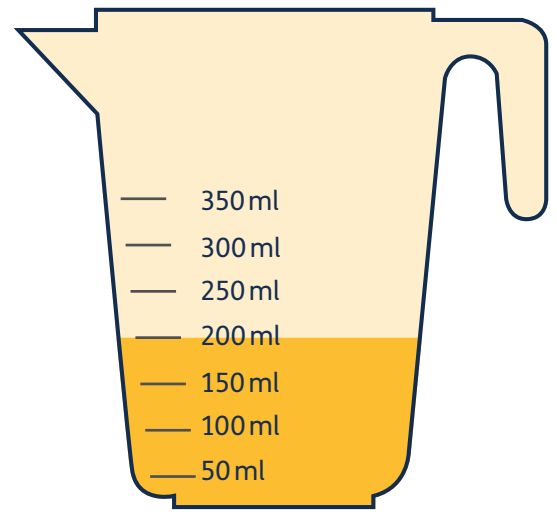


Mass and capacity

Question 8

- a** The capacity of a jug is 350 ml and the volume of liquid in the jug is 200 ml. How much more liquid can you put in the jug?

ml



Amran has a cup with a capacity of 50 ml.
How many cups does he need to fill the jug to:

- b** 100 ml? cups
- c** 200 ml? cups
- d** 350 ml? cups



Mass and capacity

Question 9

- a** I fill up three bottles of water for a picnic. Each bottle has a capacity of 2 litres. How much water am I bringing?

- b** I also bring two smaller bottles of orange squash that contain 300 ml each. What volume of squash am I bringing?

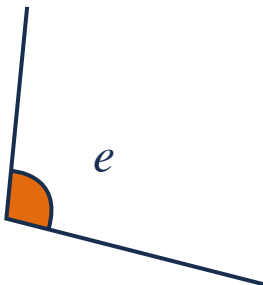
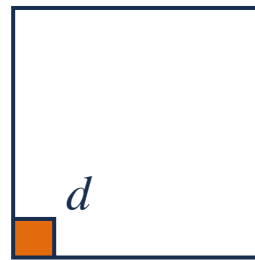
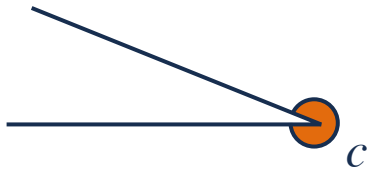
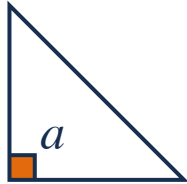
- c** What volume of liquid am I bringing to the picnic altogether?



Angles, triangles and quadrilaterals

Question 1

Can you label the angles as either acute, right, obtuse or reflex?



Angles, triangles and quadrilaterals

Question 2

Fill in these number sentences with $<$ $>$ or $=$.

a right angle 90°

b reflex angle obtuse angle

c 359° reflex angle

d $180^\circ - 90^\circ$ 90°

e 27° 127°

f $180^\circ + 92^\circ$ obtuse angle

g 116° right angle

h $180^\circ - 96^\circ$ acute angle

Can you make two more number sentences using $<$, $>$, $=$, and angles?

i

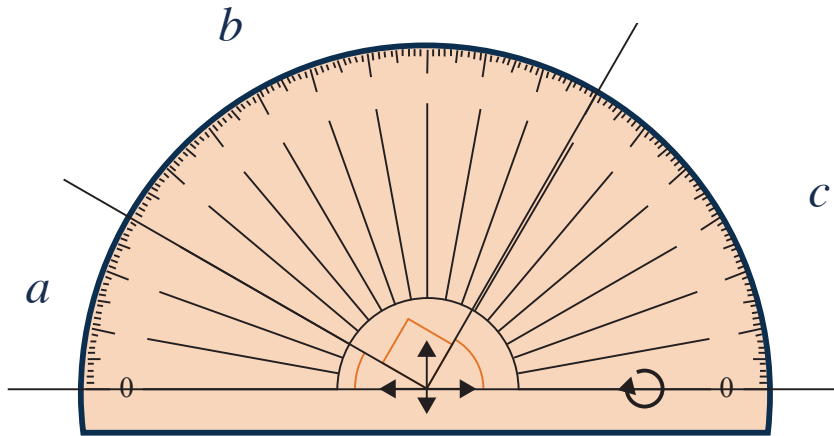
j



Angles, triangles and quadrilaterals

Question 3

Here are three angles on a protractor.



a Can you list them in order from smallest to largest?

$$\square < \square < \square$$

b What is the size of angle b ?

Question 4

Here are some angles:

17° 23° 67° 75° 88° 90° 92°

a Which **three** angles add up to 180° ?

b Which **two** angles combine to make a right angle?

c Which angle is obtuse?

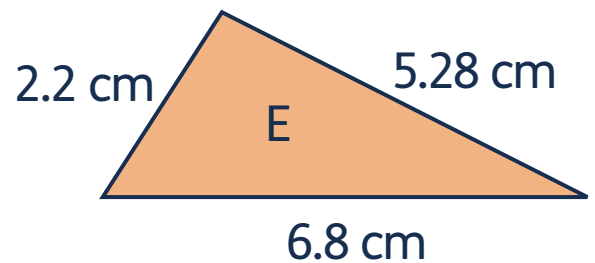
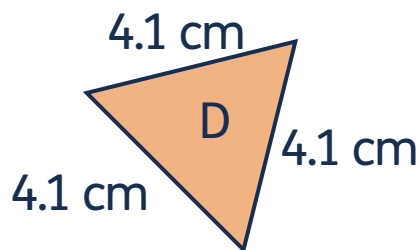
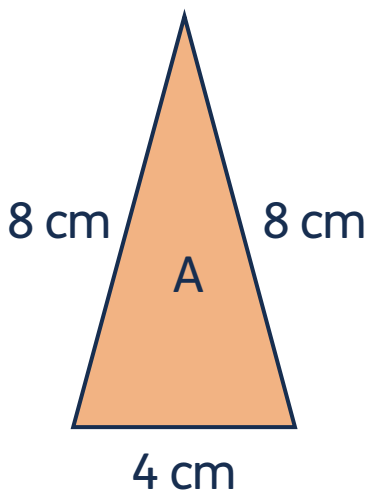
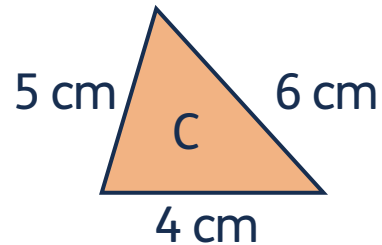
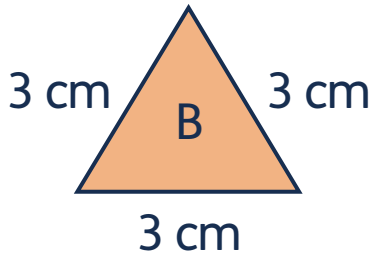


Angles, triangles and quadrilaterals

Question 5

Here are some triangles.

Not drawn to scale



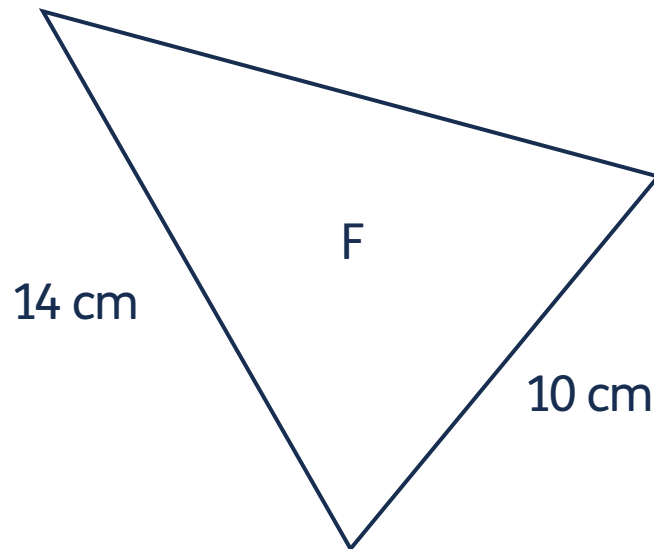
Fill in the table with their names (scalene, isosceles or equilateral), and find their perimeters.

Triangle	Triangle type	Triangle perimeter
A		
B		
C		
D		
E		



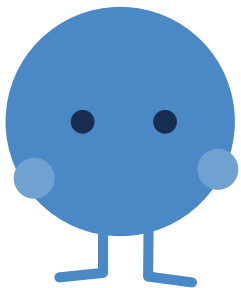
Angles, triangles and quadrilaterals

Triangle F is isosceles. What is its perimeter?

 cm

Question 6

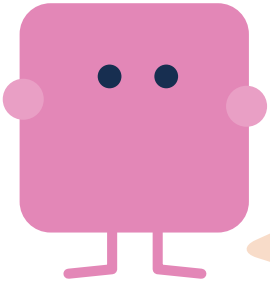
Name that triangle based on the description.



A triangle has 3 sides, all 2 cm long. What kind of triangle is it?



Angles, triangles and quadrilaterals



A triangle has a perimeter of 12 cm. One of its sides is 2 cm long. Another of its sides is 5 cm long.

What kind of triangle is it?



A triangle has a perimeter of 12 cm and one side is 7 cm long. The other side lengths are whole numbers. What kind of triangle is it?



A triangle has a perimeter of 24 cm. Two of its sides are 8 cm long. What kind of triangle is it?

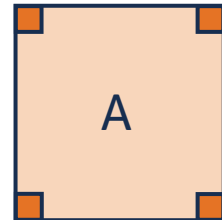


Angles, triangles and quadrilaterals

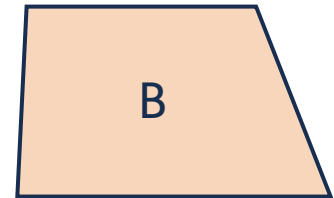
Question 7

Can you match the descriptions to the shapes to which they apply?

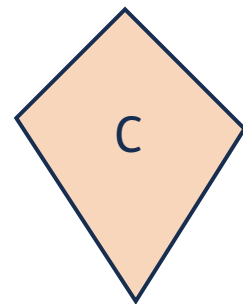
This shape has two pairs of equal adjacent sides.



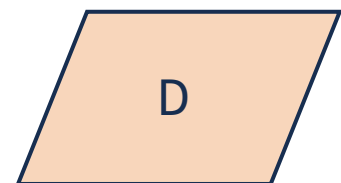
Opposite sides of this shape are equal, but not adjacent sides.



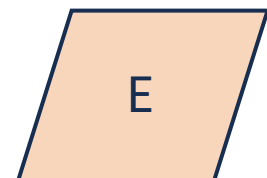
All the shape's sides are equal.



This shape has exactly one pair of parallel sides.



Adjacent sides of this shape are equal, but not opposite sides.



This shape has no equal sides.



Angles, triangles and quadrilaterals

Question 8

- a** Write the name of one 2D quadrilateral in each section of the grid.

	Four right angles	Fewer than four right angles
All sides the same length		
Not all sides the same length		

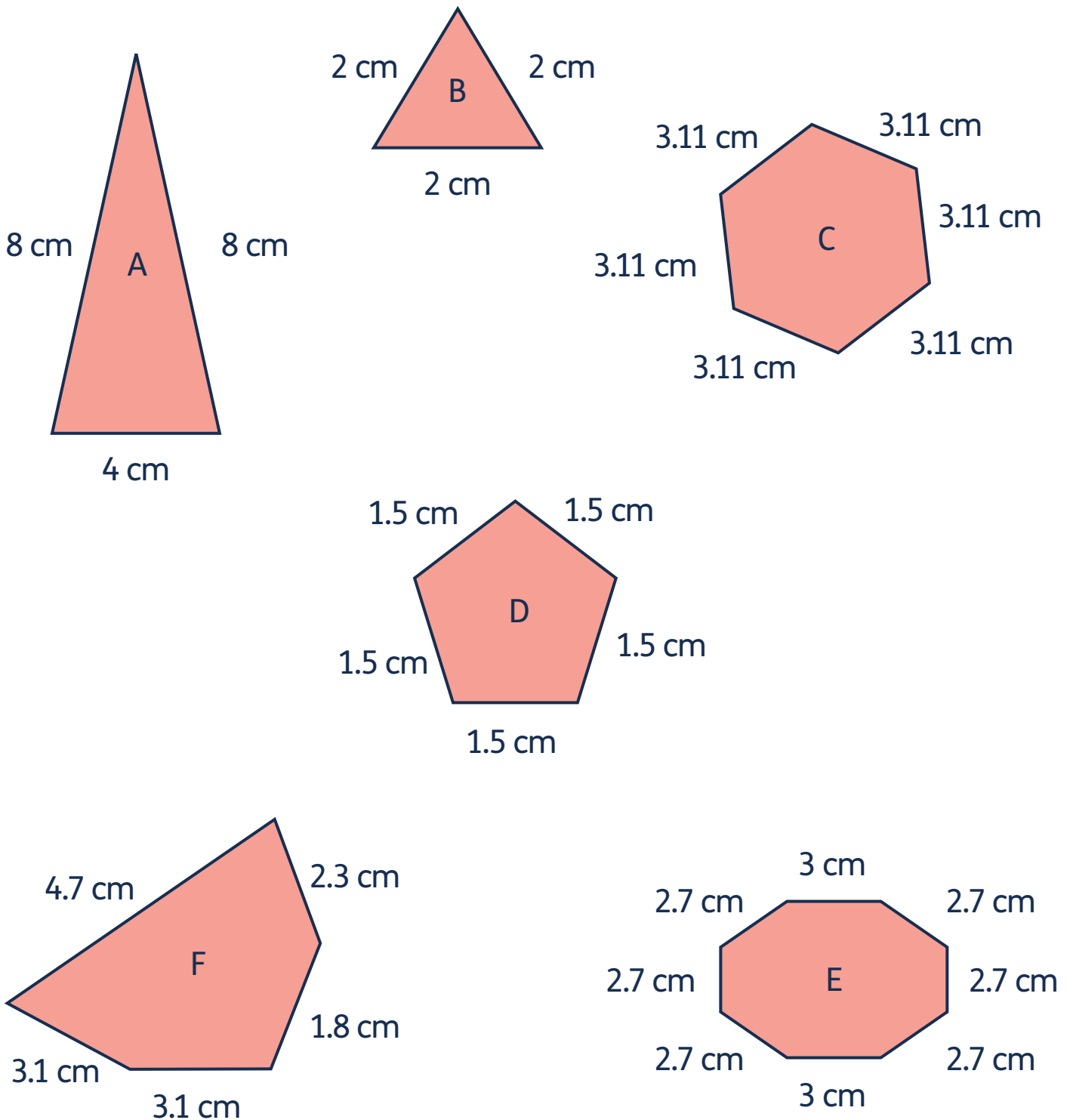
- b** Can you think of any other 2D quadrilaterals that have fewer than four right angles and that have sides of different lengths?



Geometry and measures

Question 1

Here are some shapes and measurements of their sides. Use these shapes to answer the questions on the next page.



Geometry and measures

irregular triangle irregular hexagon irregular pentagon regular hexagon
 regular octagon regular pentagon regular triangle irregular octagon

a Can you fill in the table with the best name to describe each shape?

Shape	Name
A	
B	
C	
D	
E	
F	

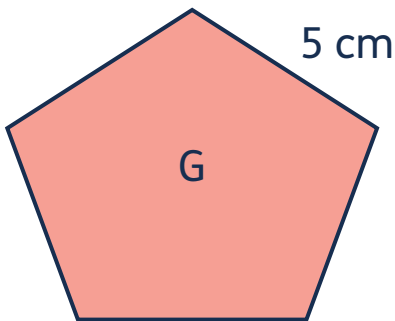
b In which shapes do you expect all the interior angles to be the same?

c The interior angles in shape B add up to 180° . What is the measurement of each angle in shape B?



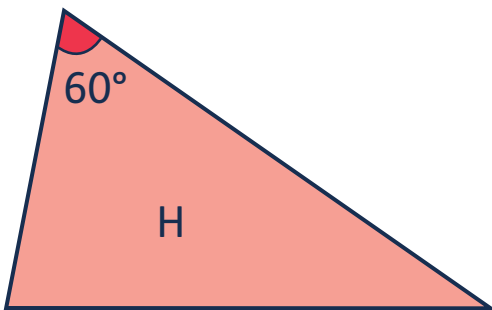
Geometry and measures

Question 2



Shape G is a regular pentagon. One side is 5 cm long. What is its perimeter?

cm



Shape H is an irregular triangle. Its interior angles add up to 180° . One of its angles is 60° . What could the other two angles be? Make two pairs of suggestions.

Question 3

This is one face of a 3D shape.



a Which 3D shapes could it be? Tick all that apply.

cube

triangular prism

cone

cuboid

square-based pyramid

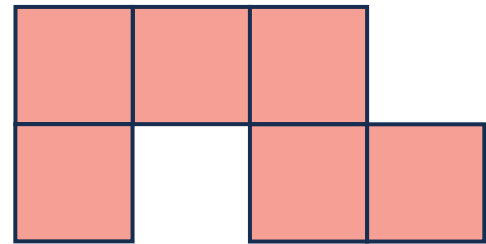
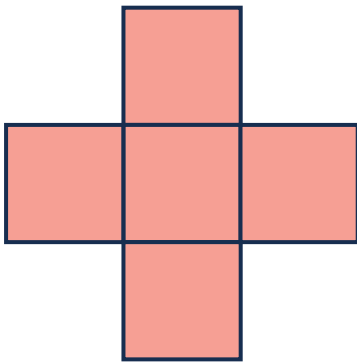
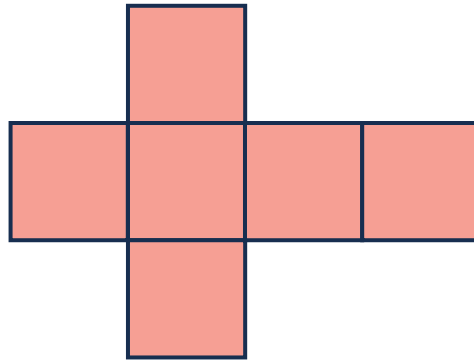
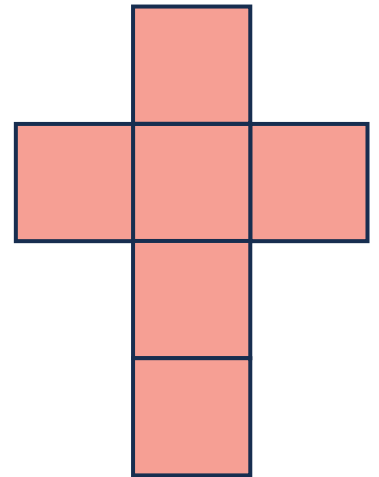
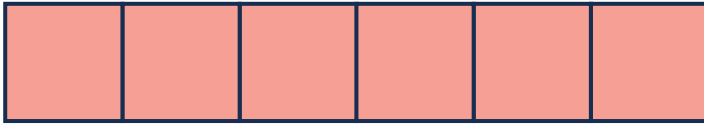
cylinder

b Draw another face that could be used in at least two different 3D shapes. What 3D shapes use your chosen face?

Geometry and measures

Question 4

a Circle the nets that could be folded to make cubes.

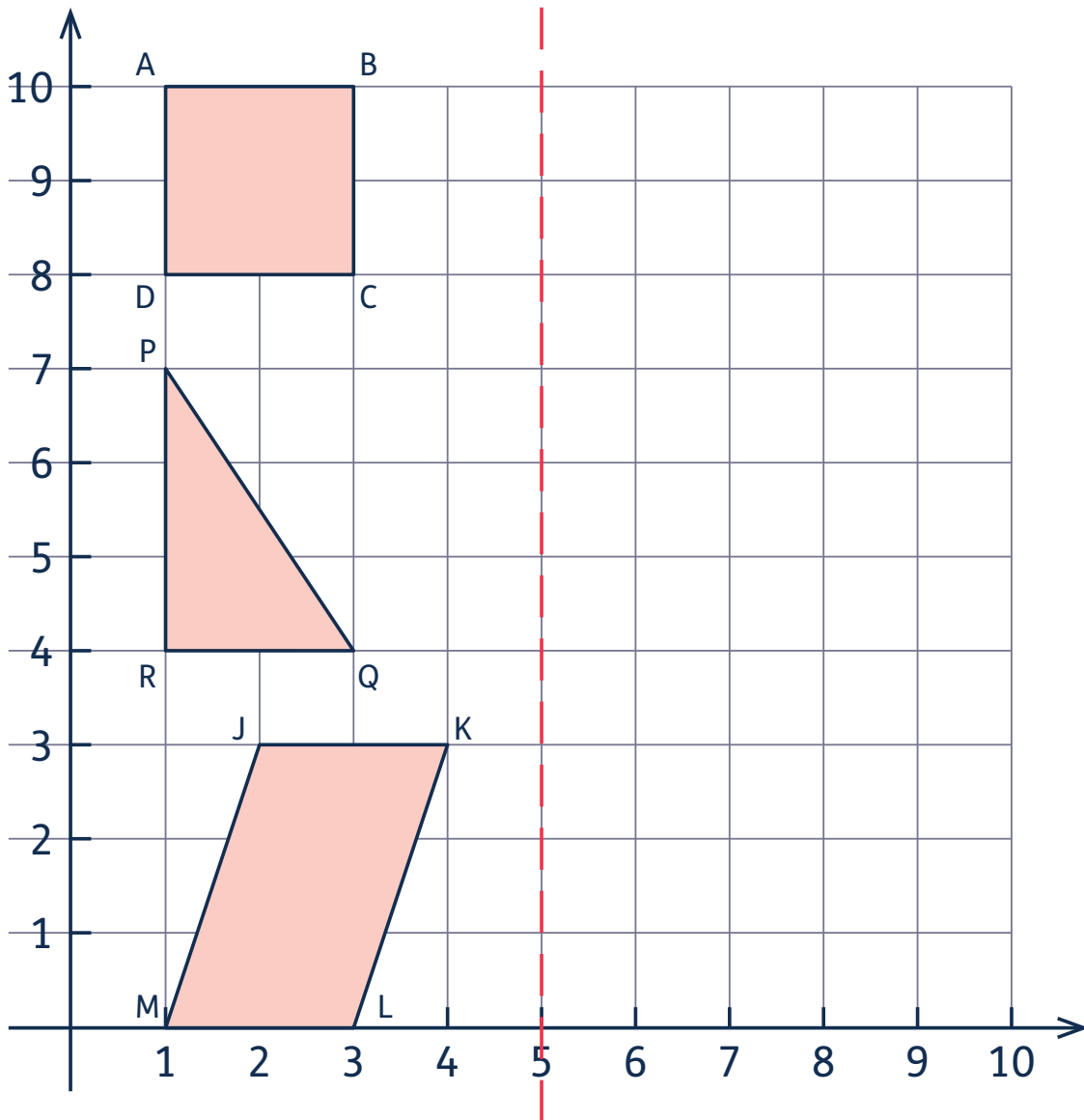


b Can you draw your own net that could be folded to make a cube?



Geometry and measures

Question 5



Here are three shapes on a graph.

a Which of the shapes is a regular polygon?

b Draw the reflections of the shapes in the mirror line.



Geometry and measures

- c** Fill in the new coordinates of the reflected shapes from the previous page in the table.

Shape	Old coordinates	New coordinates
ABCD	A (1,10), B (3,10), C (3,8), D (1,8)	A' (<input type="text"/> , <input type="text"/>), B' (<input type="text"/> , <input type="text"/>), C' (<input type="text"/> , <input type="text"/>), D' (<input type="text"/> , <input type="text"/>)
PQR	P (1,7), Q (3,4), R (1,4)	P' (<input type="text"/> , <input type="text"/>), Q' (<input type="text"/> , <input type="text"/>), R' (<input type="text"/> , <input type="text"/>)
JKLM	J (2,3), K (4,3), L (3,0), M (1,0)	J' (<input type="text"/> , <input type="text"/>), K' (<input type="text"/> , <input type="text"/>), L' (<input type="text"/> , <input type="text"/>), M' (<input type="text"/> , <input type="text"/>)

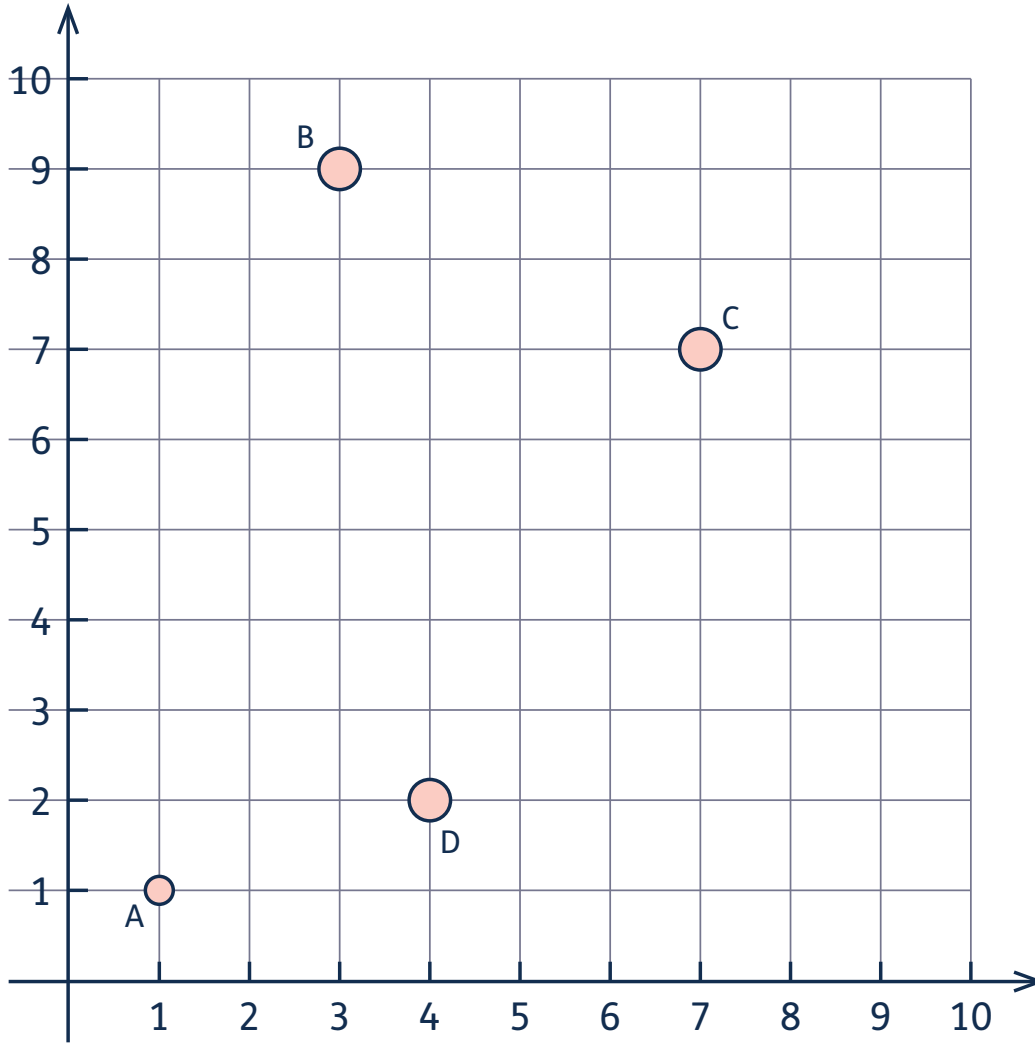
- d** What do you notice about the y-axis coordinates?



Geometry and measures

Question 6

The dot at A (1,1) is going to visit points B, C and D in order, then return to A.



Use as few translations as possible.

Point A to Point B	B to C	C to D	D to A
Up <input type="text"/>	Up <input type="text"/>	Up <input type="text"/>	Up <input type="text"/>
Down <input type="text"/>	Down <input type="text"/>	Down <input type="text"/>	Down <input type="text"/>
Left <input type="text"/>	Left <input type="text"/>	Left <input type="text"/>	Left <input type="text"/>
Right <input type="text"/>	Right <input type="text"/>	Right <input type="text"/>	Right <input type="text"/>

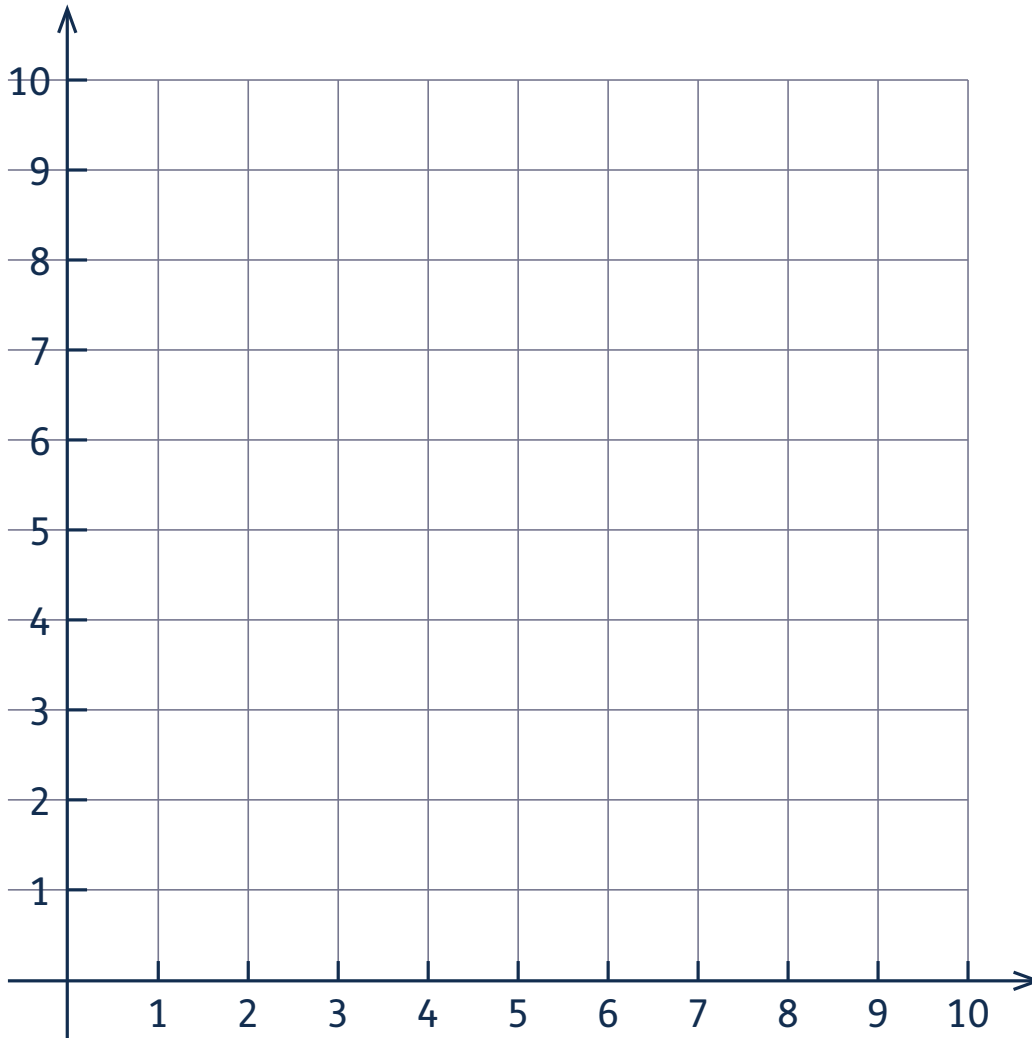


Geometry and measures

Question 7

a Plot these points on the graph below to make shape ABC.

A (3,1), B (5,4), C (7,1)



b Shape ABC is now moved right 3 and up 6 to make shape DEF. What are the new coordinates of Shape DEF?

D: E: F:

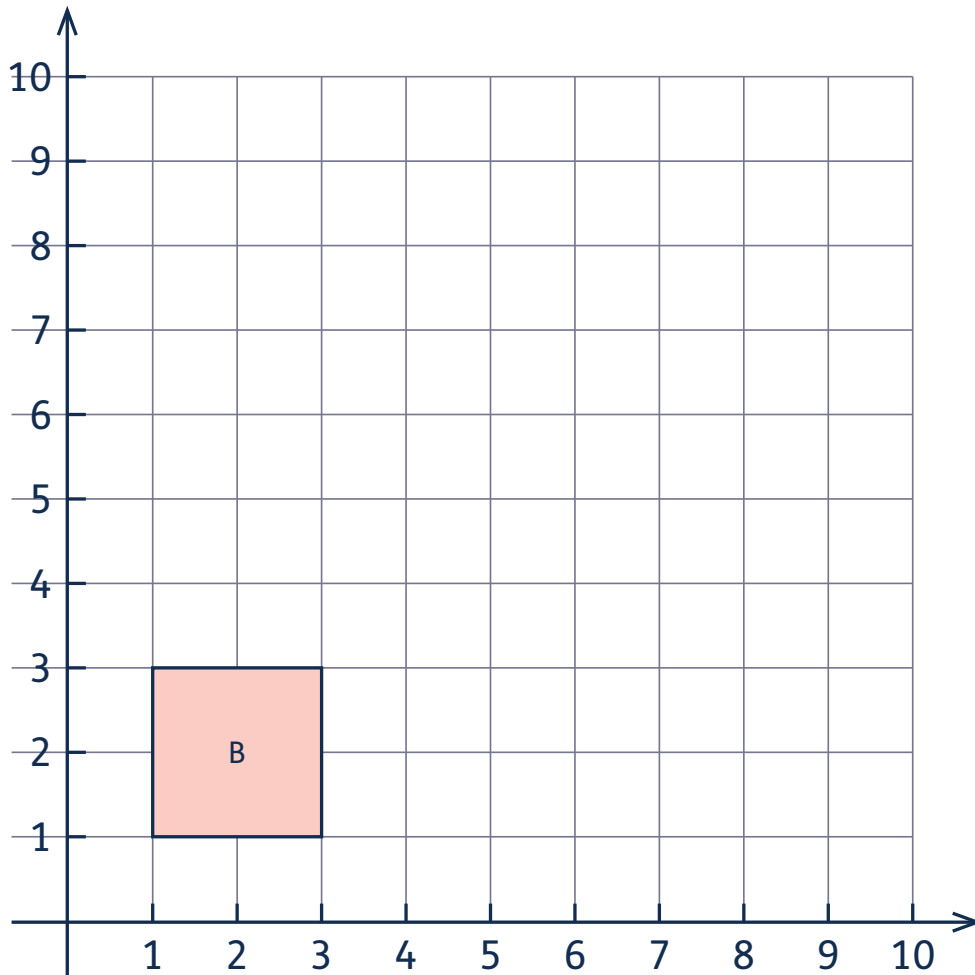
c Can you draw shape DEF on the grid?



Geometry and measures

Question 8

Here is Shape B.



Shape B moves to the new coordinates: (7,1), (7,3), (9,1), (9,3)

a Draw its new position on the graph.

b What translation has occurred?

Up

Left

Down

Right

c Draw a mirror line that would have reflected an image of Shape B to the same coordinates.

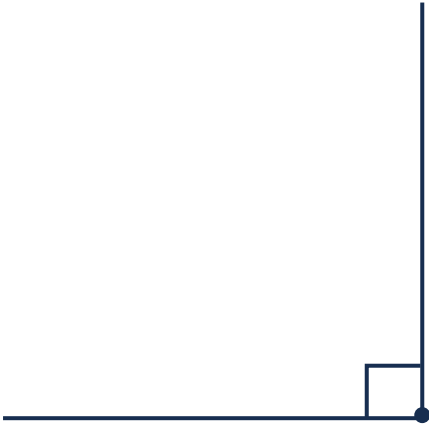


Calculating angles

Question 1

Label these angles in degrees.

a


 °

b


 °

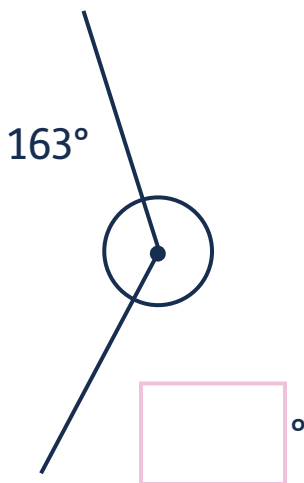
c


 °

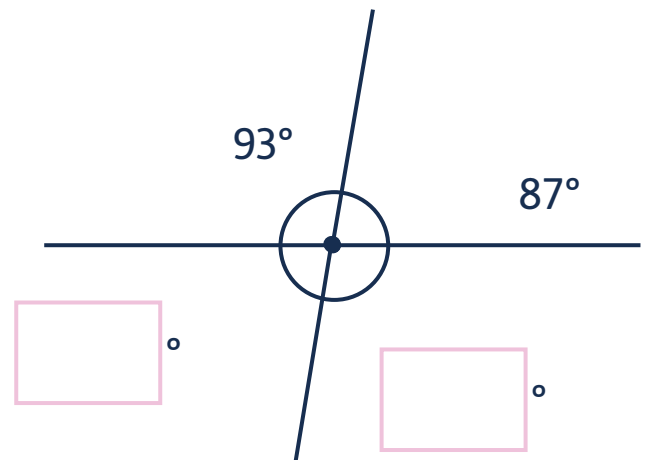
Question 2

Can you find the missing angles?

a

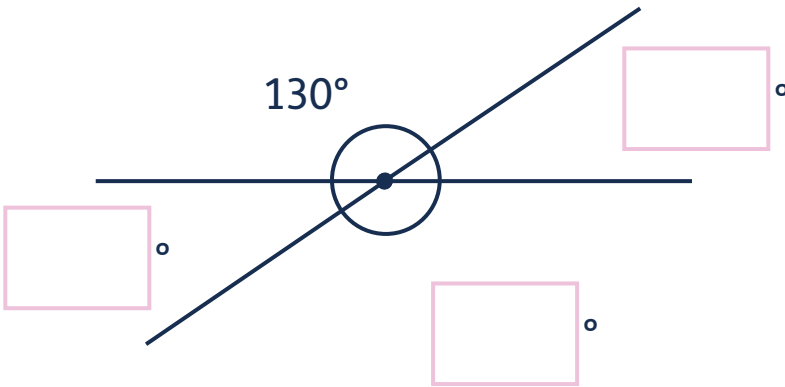


b

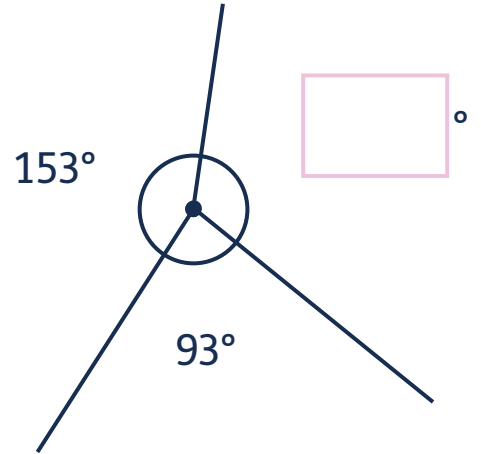


Calculating angles

c



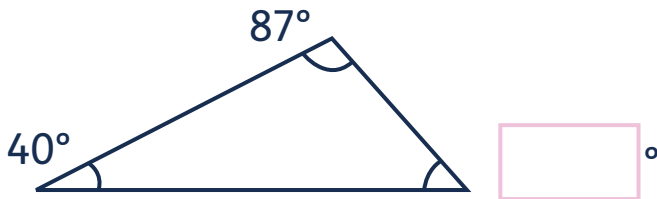
d



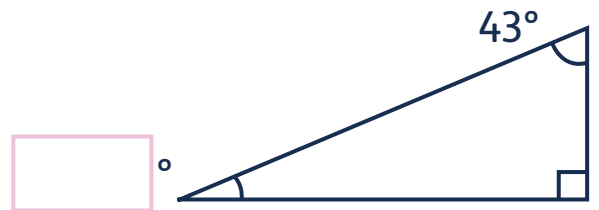
Question 3

Find the missing angles in these triangles.
The triangles are not drawn to scale.

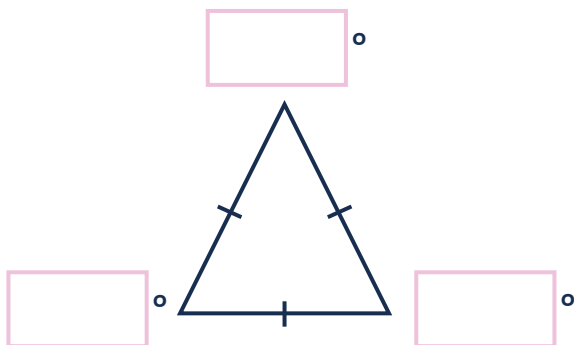
a



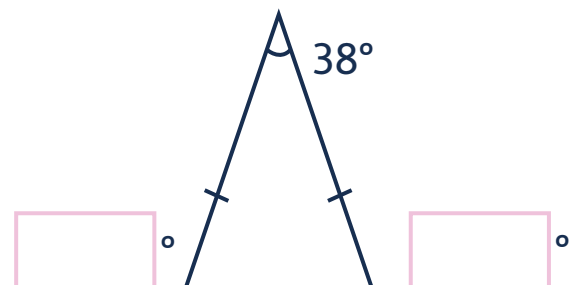
b



c



d

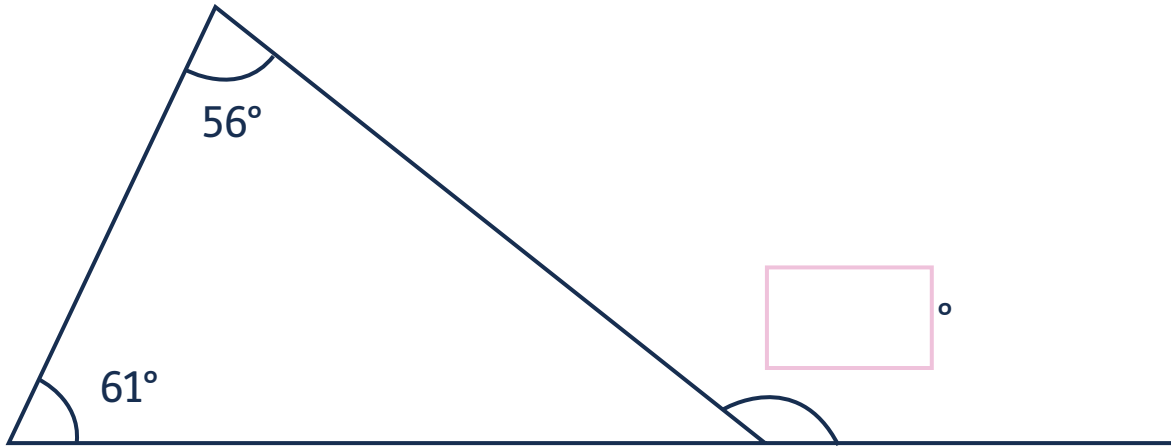


Calculating angles

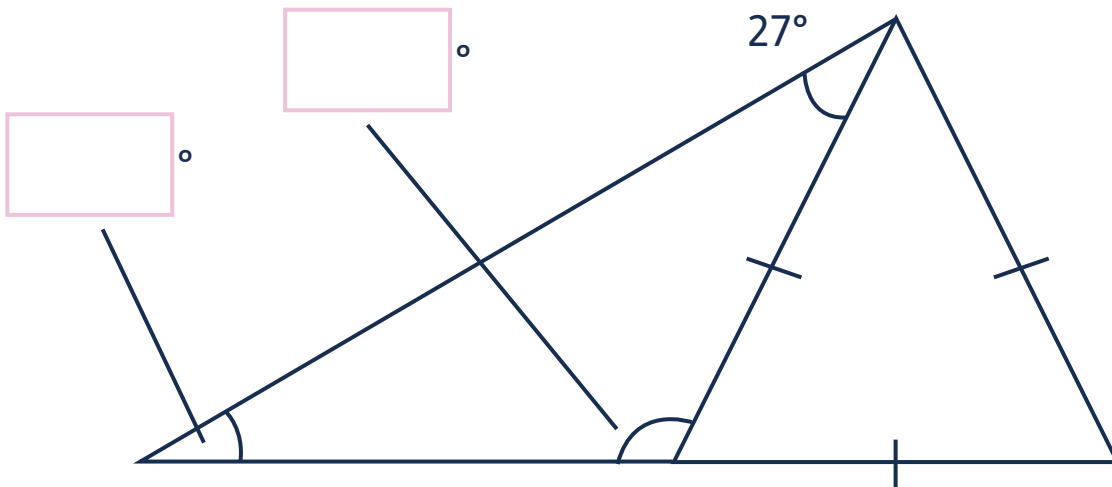
Question 4

Can you find the missing angles? Shapes have not been drawn to scale.

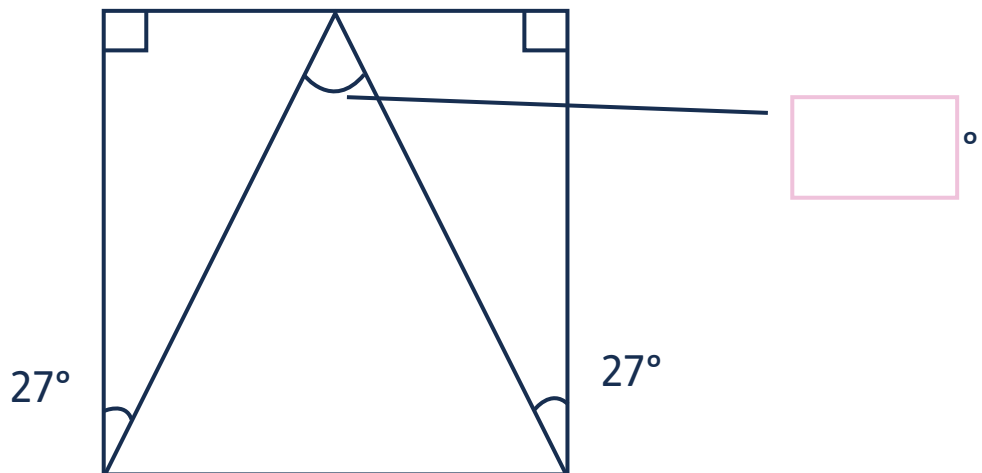
a



b



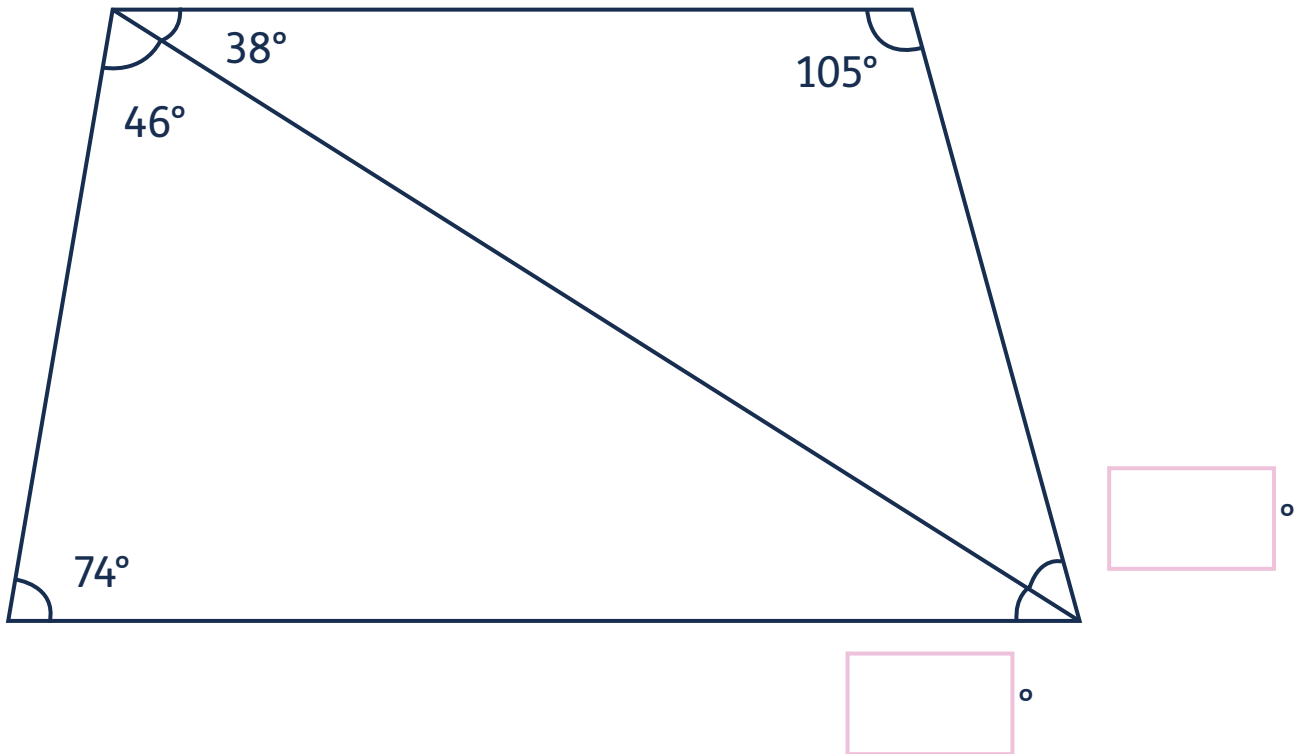
c



Calculating angles

Question 5

This trapezium is split into two triangles. Shapes are not drawn to scale.



- Can you find the missing angles?
- What are the measurements of the four angles in the trapezium?

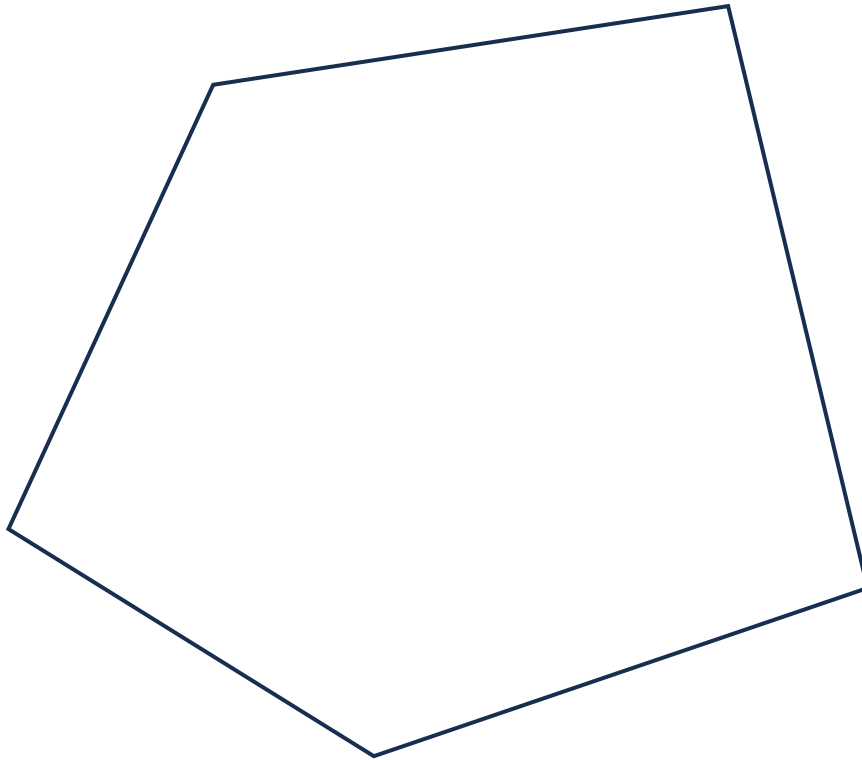
- What is the sum of the interior angles in the trapezium?



Calculating angles

Question 6

- a Can you split this pentagon into three triangles?



- b What is the sum of the angles in all three triangles?

- c What is the sum of the interior angles in the pentagon?



Calculating angles

Question 7

a Based on what you know about polygons, can you fill in this table?

Shape	Number sides	Number of triangles	$180^\circ \times$ Number of triangles	Sum of internal angles in shape
Triangle	3	1	180°	180°
Quadrilateral	4	2		
Pentagon				
Hexagon				
Octagon				

b If a polygon had 20 sides, how many triangles would you be able to make?

c How does the number of triangles change with the polygon?

d How does the sum of interior angles change with the polygon?

