Monday 1st March 2021

Maths

https://watchkin.com/6432d99a89

Q	Question	Answer
1	10 = ☐ + 3	
2	20 = 15 + ☐	
3	What is double 34?	
4	168 + 10 = ☐	
5	117 − 70 = ☐	
6	4 = 3 + ☐	
7	51 − 10 = 51 − 1 − ☐	
8	3 + 3 = ☐ × 3	
9	What time is shown on the clock?	am
10	What time was it 59 minutes before 4:00 pm?	
	Total out of 10	

Q	Question	Answer
1	7 × 10 = ☐	
2	9 ÷ 3 = ☐	
3	☐ ÷ 7 = 4	
4	8 × ☐ = 48	
5	4 × ☐ = 24	
6	☐ ÷ 2 = 5	
7	5 × ☐ = 30	
8	10 × 5 = ☐	
9	70 ÷ ☐ = 7	
10	☐ × 10 = 80	
	Total out of 10	

Q	Question	Answer
1	765 + 8937	
2	5 − 1 × 2	
3	Write 59168 in words. Use the opposite page for your answer.	
4	16.942 ÷ 10	
5	10 × (−10)	
6	Round 0.6938 to 2 decimal places	
7	Value of the dot 	
8	List the first 4 multiples of 15	
9	What is the value of 2^3?	
10	10/1 = ☐/6	
	Total out of 10	

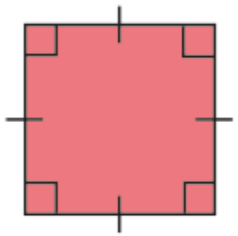
Week 21
Session 2

Calculate your Ninja Score to see which Ninja Belt you've earned today!

1 Use the word bank to label each quadrilateral.

rhombus | parallelogram | trapezium | rectangle | square

a)

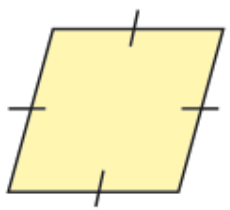


_____

b)

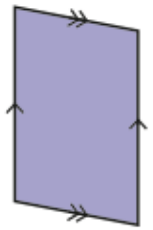
_____

c)



_____

d)



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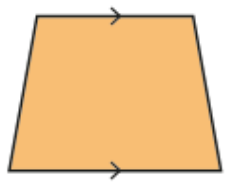
e)

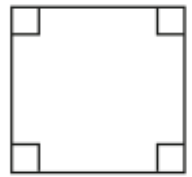


_____

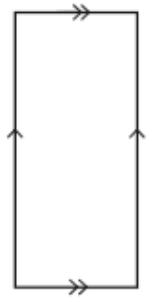
How did you know which shape was which?

2 Here are some quadrilaterals.

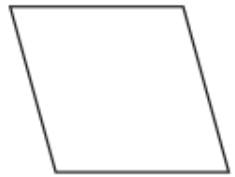
A



B

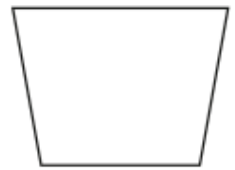


C



D

E



a) Mark any right angles on the shapes.
One shape has been done for you.

b) Mark any pairs of parallel lines.
One shape has been done for you.

c) Which shapes do not have any right angles?

_____

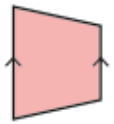
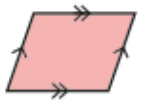
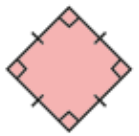
d) Which shapes have two pairs of parallel lines?

_____

e) Which shapes have four equal sides?

_____

3 Complete the table.

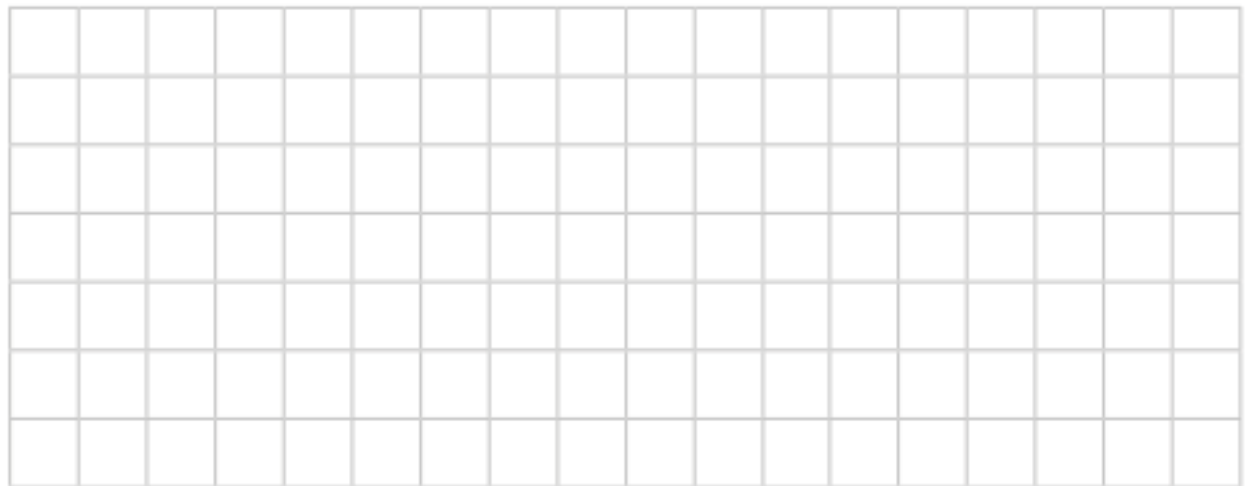
Shape	Polygon?	Number of sides	Number of right angles	Number of pairs of parallel sides	Number of equal sides
	Yes	4	4	2	2 pairs
					2
					
					
					
					

What is the same about all of the shapes?

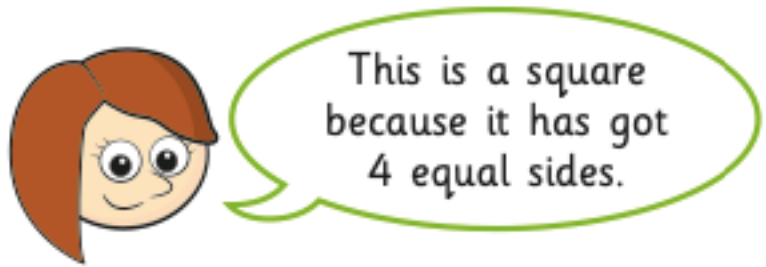
What is different?

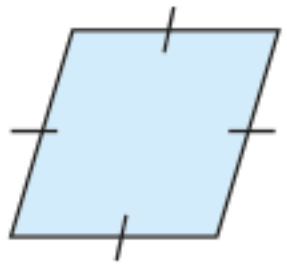
4 Draw the shapes on the grid.

a) square **b)** trapezium **c)** parallelogram



5

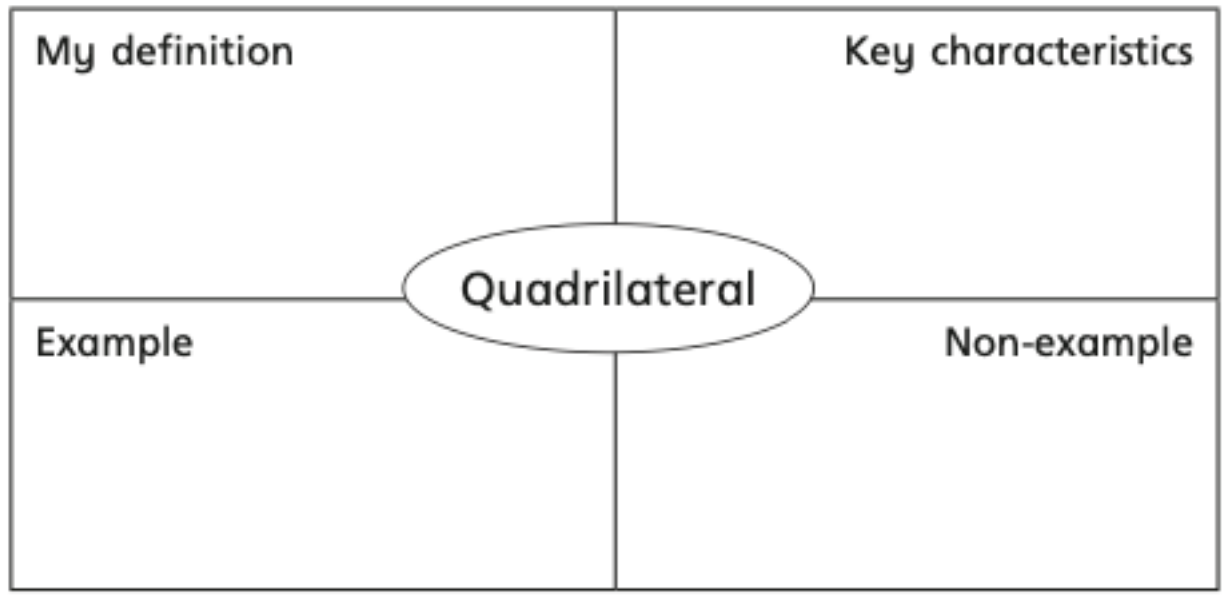




Do you agree with Rosie? _____

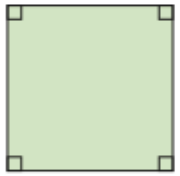
Explain your answer.

6 Complete this Frayer Model to describe a quadrilateral.



Calculating lengths and angles in shapes

1 Here is a square.

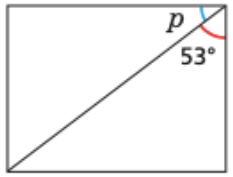


a) What is the size of each of the angles? ☐°

A diagonal line is drawn across the square.

b) Explain why angle a is also 45°.

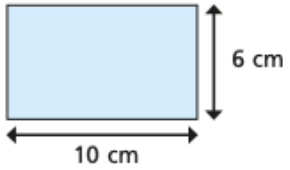
2 Here is a rectangle.



What is the size of the angle marked p?

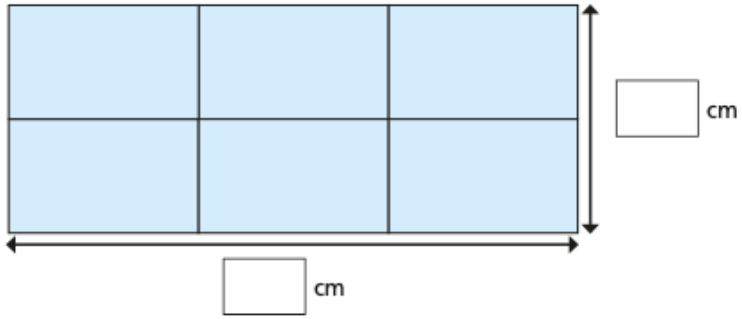
p = ☐°

3 Tom has some identical paper rectangles.



He makes shapes with the rectangles.

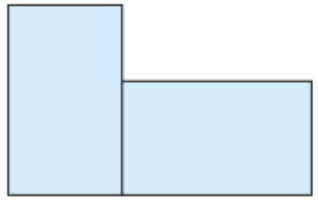
a) Work out the missing length and width of this shape.



☐ cm

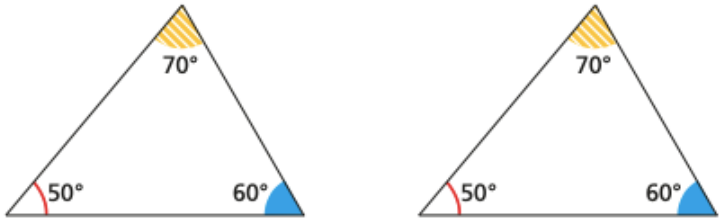
☐ cm

b) Work out the perimeter of this shape.



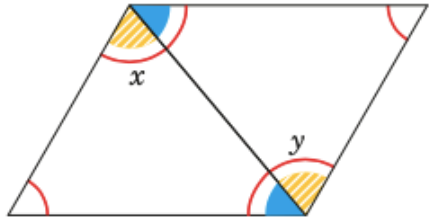
perimeter = ☐ cm

4 Dani has two identical triangles.



The two triangles are put together to make a quadrilateral.

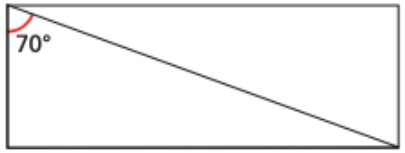
What are the sizes of angles x and y?



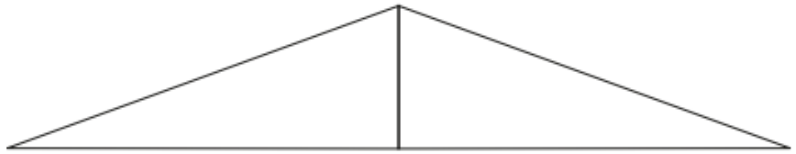
$x =$ ☐ °

$y =$ ☐ °

5 The rectangle is cut in half across the diagonal.



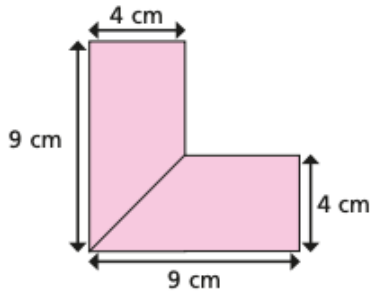
The two triangles are put together to form an isosceles triangle.



Work out the size of the angles in the isosceles triangle and label them on the diagram.

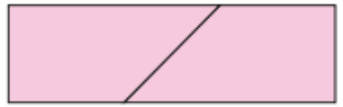
How did you work this out? Talk about it with a partner.

6 A hexagon has these dimensions.



Brett cuts the shape in half and fits the pieces together to make a rectangle.

What is the length and width of the rectangle?

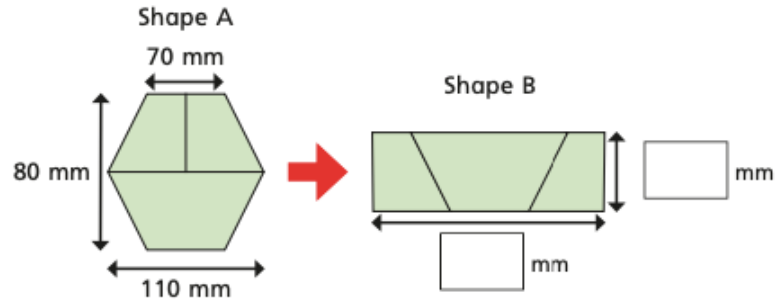


width = ☐ cm

length = ☐ cm

7 Shape A is a regular hexagon.

Shape A is cut up to make shape B.

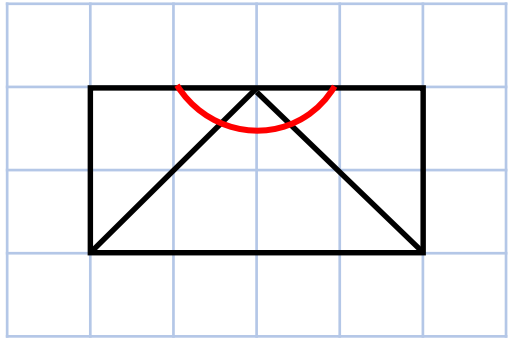


What is the length and width of the new rectangle?

Label the diagram.

Challenges

Whitney is calculating the missing angles in the shape.

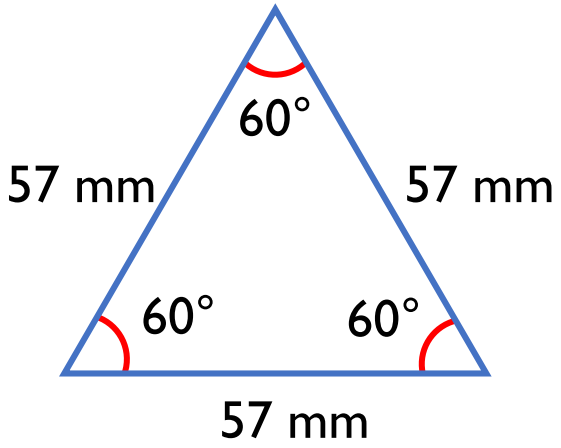


She says,

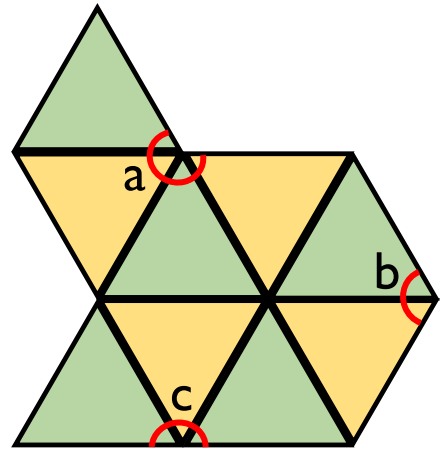
The missing angles are 60 degrees because 180 ÷ 3 = 60

Do you agree?
Explain why.

Alex has this triangle.



She makes this composite shape using identical triangles to the one above.



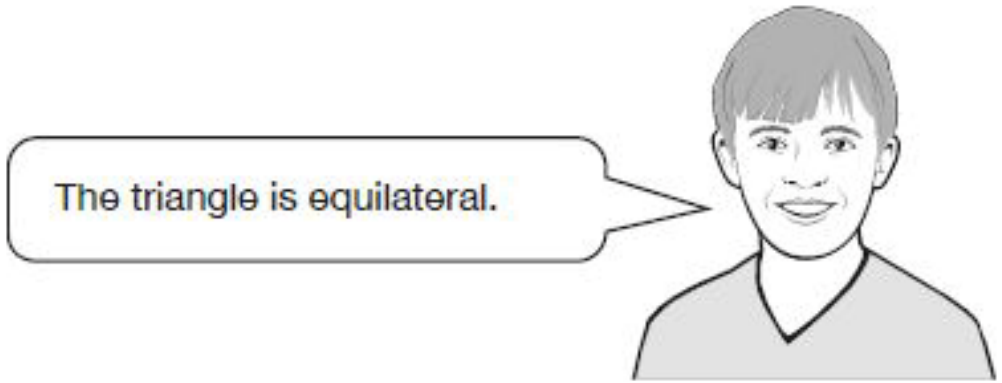
- Calculate the perimeter of the shape.
- Calculate the missing angles.

Use your own triangle, square or rectangle to make a similar problem?

1

Two of the angles in a triangle are 70° and 40°

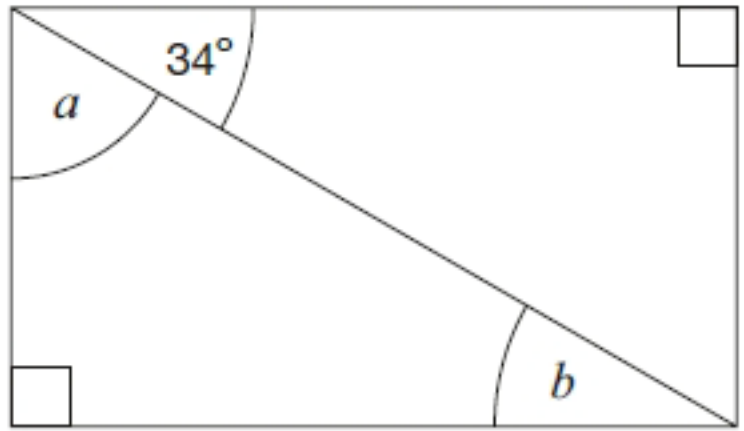
Jack says,



Explain why Jack is **not** correct.

2

Here is a rectangle.



Not to scale

Calculate the size of angles a and b.

Do **not** measure the angles.

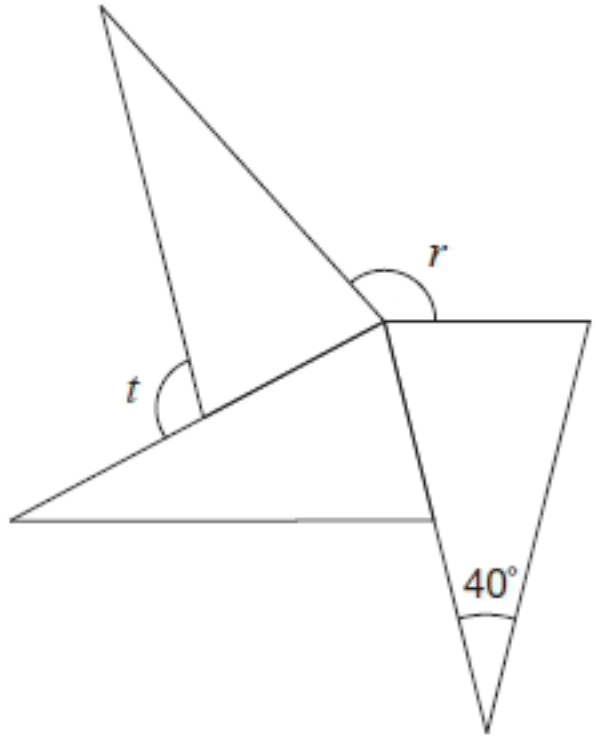
$a =$ ☐ °

1 mark

$b =$ ☐ °

1 mark

3 The diagram shows three **identical** isosceles triangles.



Not to scale

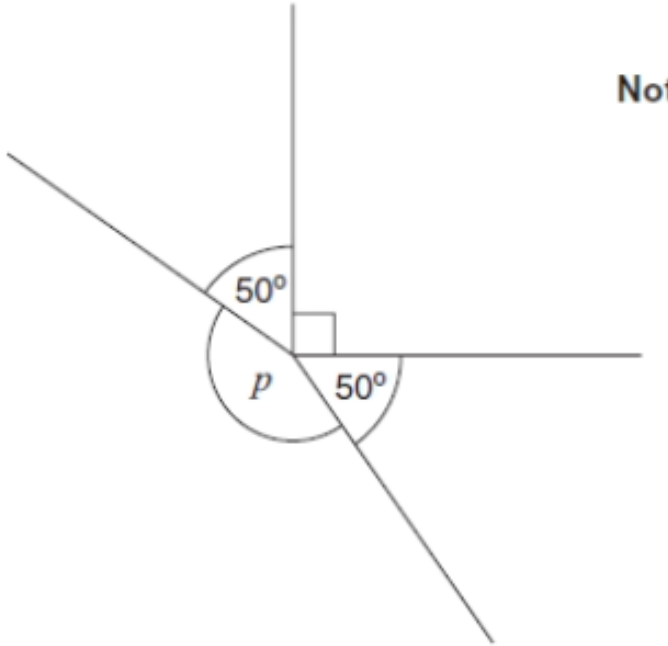
What are the sizes of angles r and t?

Show your method

r = °

t = °

4



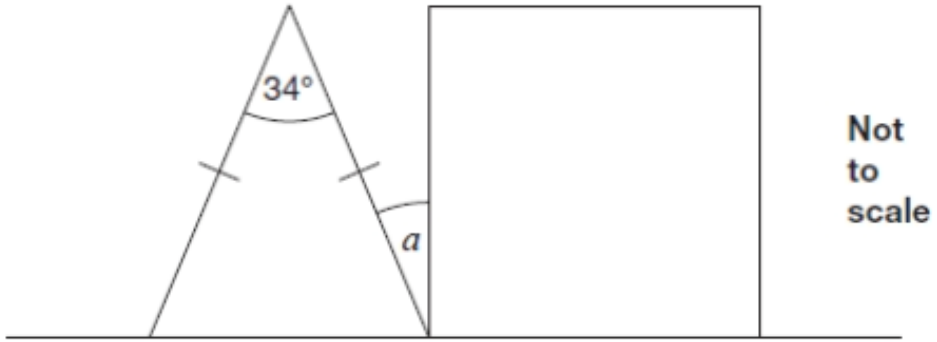
Calculate the size of angle ***p*** in the diagram.

Do **not** use a protractor (angle measurer).

Show your method

5

The diagram shows an isosceles triangle and a square on a straight line.



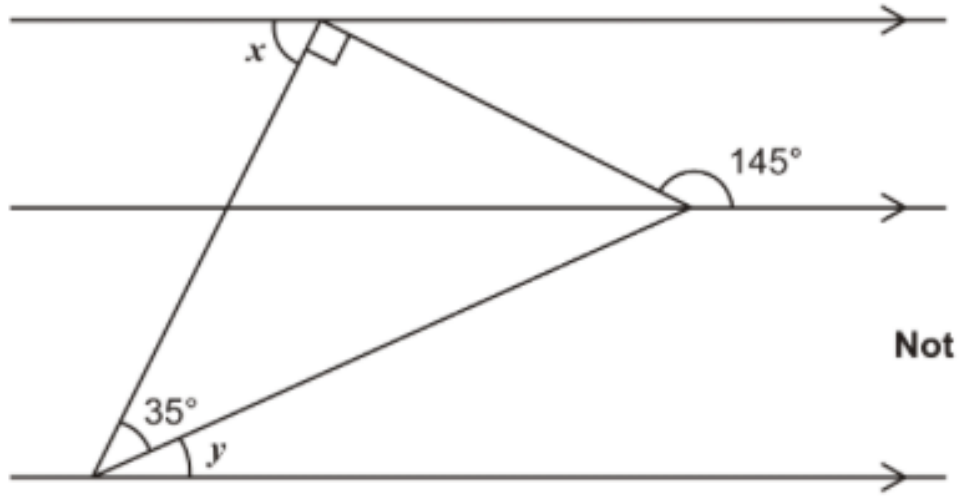
Not to scale

Calculate angle α.

Show your method

°

6 The diagram shows a right-angled triangle and three parallel lines.



Not to scale

Calculate the size of angle x and angle y

Do **not** use a protractor (angle measurer).

x = ____ °

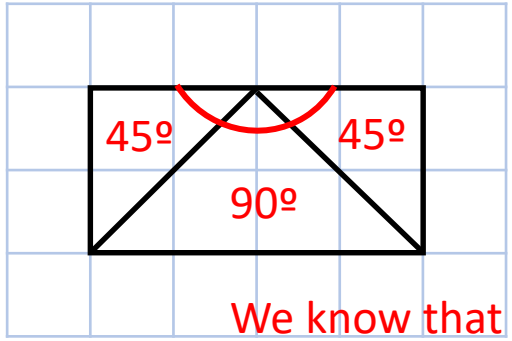
1 mark

y = ____ °

1 mark

Answers

Whitney is calculating the missing angles in the shape.



We know that this is a right angle.

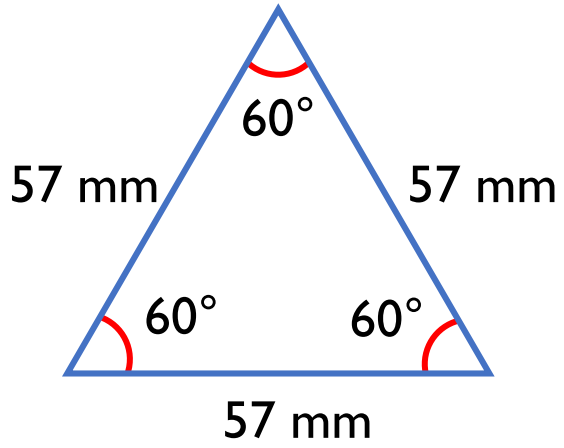
She says,

The missing angles are 60 degrees because 180 ÷ 3 = 60

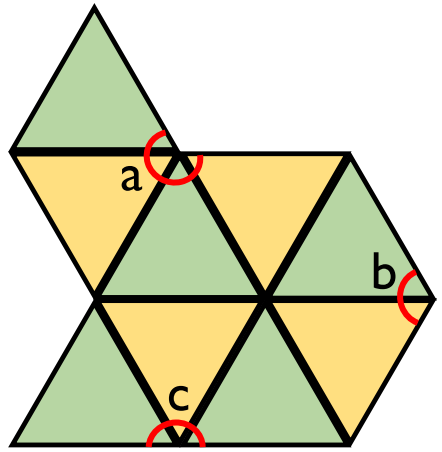
Do you agree? No

Explain why. We know the angles on a straight line = 180°. It is an isosceles triangles so the other two angles are equal. That means they will be 45º each.

Alex has this triangle.



She makes this composite shape using identical triangles to the one above.



9 x 57 = 513mm

- Calculate the perimeter of the shape.
- Calculate the missing angles.

A = 180º
B = 120º
C = 180º

Use your own triangle, square or rectangle to make a similar problem?

1

An explanation showing an understanding:

- that this specific triangle has angles 70, 70 and 40

OR

- of the properties of an equilateral triangle − all angles are equal (60°)

and therefore that this triangle cannot be equilateral, e.g.

- The angles aren't 60°
- There is not a 60° angle
- It has two different angles (70° and 40°) so it can't be equilateral
- The angles aren't the same
- An equilateral triangle has 60° + 60° + 60°
- All the angles are the same in an equilateral triangle
- It's an isosceles triangle.

2

(a) 56

(b) 34

3

$r = 150$ and $t = 110$

4

Award **TWO** marks for correct answer of 170°

5

17

6

(a) $x = \boxed{55°}$

(b) $y = \boxed{20°}$