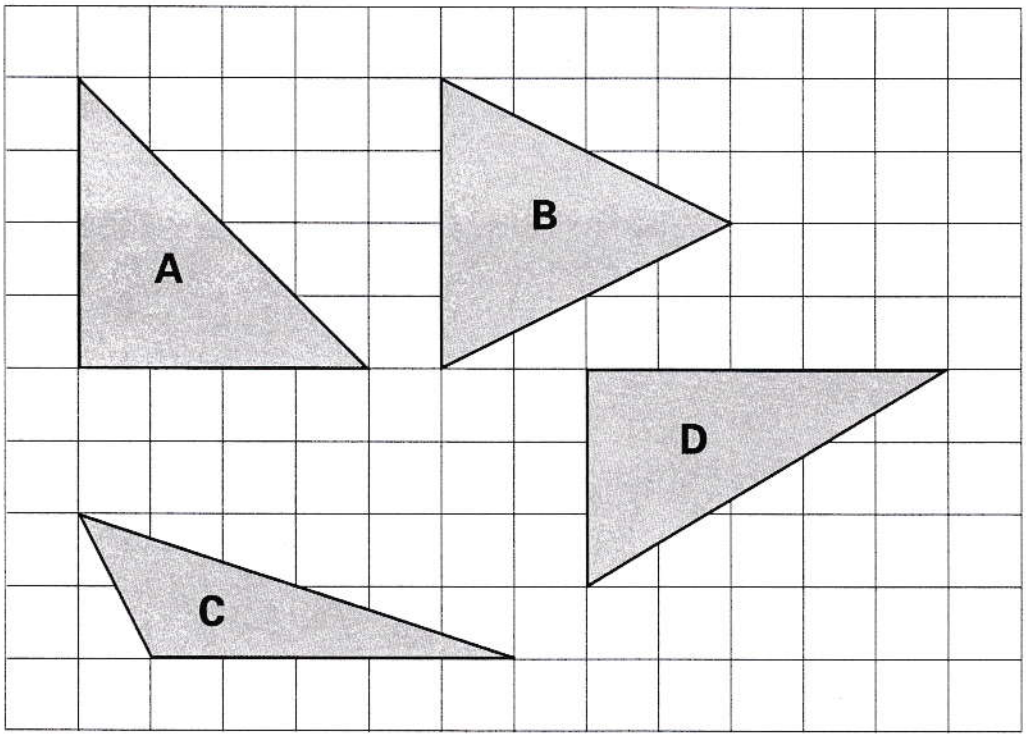
1 Here are four triangles drawn on a square grid.

[2002]



Write the letter for each triangle in the correct region of the sorting diagram.

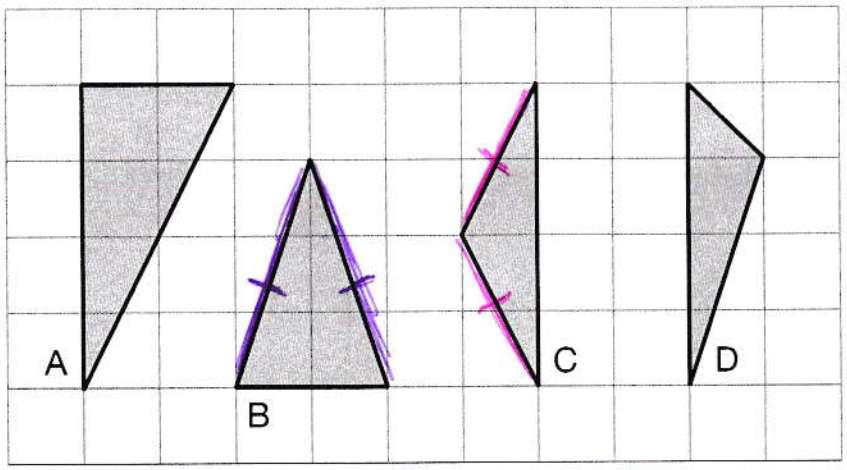
One has been done for you.

	has a **right** angle	has an **obtuse** angle	has 3 **acute** angles
is isosceles	A		B
is **not** isosceles	D	C	

[2 marks]

2 Here are four triangles on a square grid.

[2007]



Write the letters of the **two isosceles** triangles.

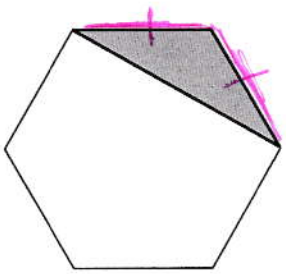
B and C

[1 mark]

3 These two shaded triangles are each inside a regular hexagon.

[2001]

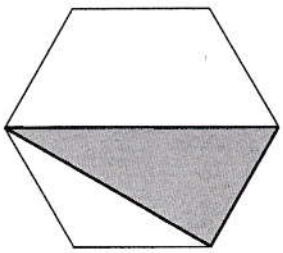
Under each hexagon, put a ring around the correct name of the shaded triangle.



equilateral

isosceles

scalene



equilateral

isosceles

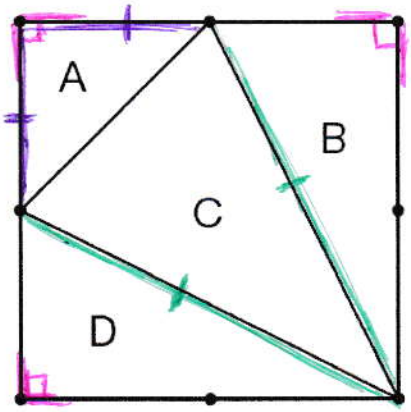
scalene

[1 mark]

4 [2012]

This diagram shows a square with dots at the vertices and at the middle of each side.

The square is divided into four triangles, **A**, **B**, **C** and **D**.



Write the letters of all the triangles that have a **right angle**.

A, B, D

Write the letters of all the **isosceles** triangles.

A, C

[2 marks]

5 [Extra]

Anna has four **different** triangles.

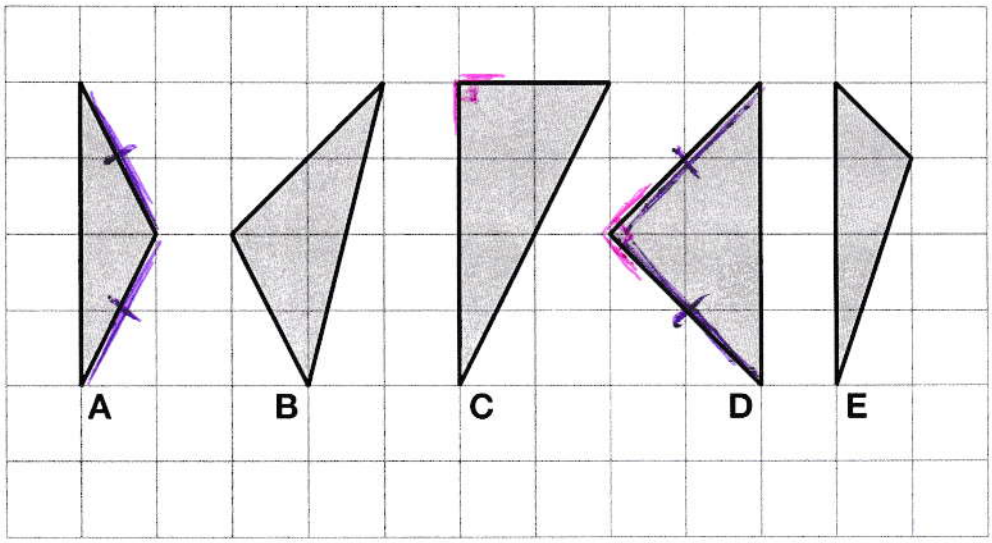
Complete the table to show the size of the angles in each triangle.

Type of triangle	Angle 1	Angle 2	Angle 3
Isosceles	90°	45°	45°
Right-angled	80°	90°	10°
Isosceles	70°	70°	40°
Isosceles	70°	55°	55°

[2 marks]

6 Here are five shaded triangles on a square grid.

[2010]



Write the letter of each triangle that has a right angle.

C, D

Write the letter of each triangle that has two equal sides.

A, D

[2 marks]

7

[Extra]

A triangle has **three equal sides**.

Write the sizes of the **angles** in this triangle.

60°, 60°, 60°

A **right-angled triangle** has **two equal sides**.

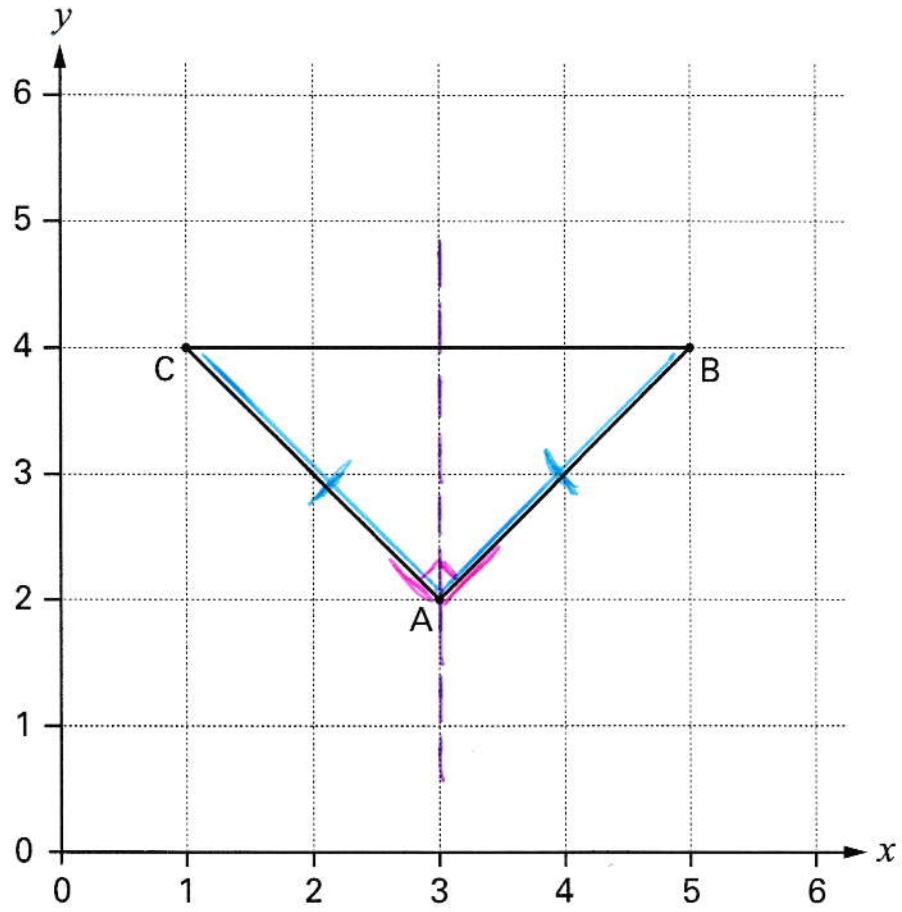
Write the sizes of the **angles** in this triangle.

90°, 45°, 45°

[2 marks]

8 Look at the triangle ABC, drawn on a square grid.

[Extra]



Here are some statements about triangle ABC.

For each statement tick (✓)True or False.

	True	False
The triangle is isosceles.	✓	
The triangle has only one line of symmetry.	✓	
The triangle is right-angled.	✓	
The coordinates of A are (2, 3)		✓

[COORDINATES ARE (3,2)]

[2 marks]

9 Jamie draws a triangle.

[2007]

He says,

'Two of the three angles in my triangle are obtuse'.

Explain why Jamie **cannot** be correct.

OBTUSE ANGLES ARE MORE THAN 90°, SO IF TWO OF THEM WERE OBTUSE THEY WOULD ADD TO MORE THAN 180°.

[1 mark]

10 Here are four statements.

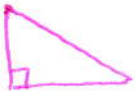
[2005]

For each statement put a tick (✓) if it is **possible**.
Put a cross (✖) if it is **impossible**.

A triangle can have 2 acute angles. ☑ 

A triangle can have 2 obtuse angles. ☒ [MORE THAN 180°]

A triangle can have 2 parallel sides. ☒

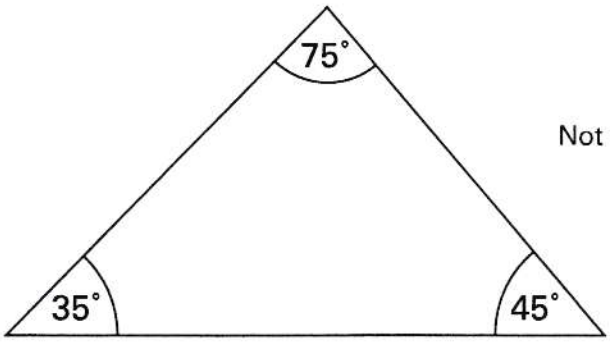
A triangle can have 2 perpendicular sides. ☑ 

[2 marks]

11 [Extra]

Tina measures the angles in a triangle.

The sketch shows her results.



Not drawn accurately

How can you tell that Tina has made a mistake?

BECAUSE 35 + 75 + 45 = 155°

AND THE ANGLES IN A TRIANGLE ADD TO 180°!

[1 mark]

12 [2003]

An isosceles triangle has a perimeter of 12cm.

One of its sides is 5cm. TWO SIDES THE SAME!

What could the length of each of the other two sides be?

Two different answers are possible.

Give **both** answers.

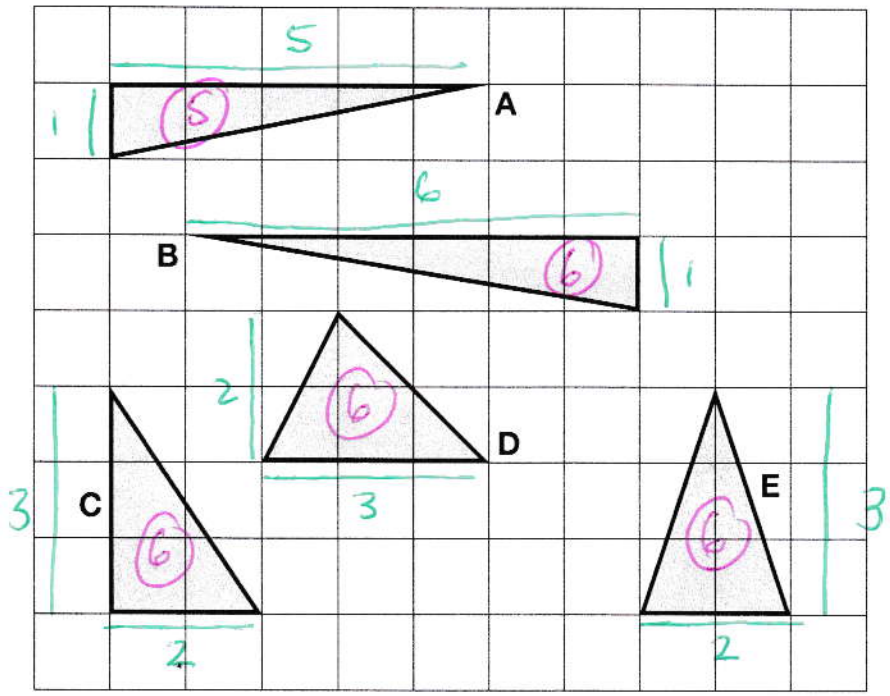
5 + | 5 cm | and | 2 cm |

5 + | 3·5 cm | and | 3·5 cm |

[2 marks]

13 Here are five triangles on a square grid.

[2016]



Four of the triangles have the same area.

Which triangle has a **different** area?

A

[1 mark]

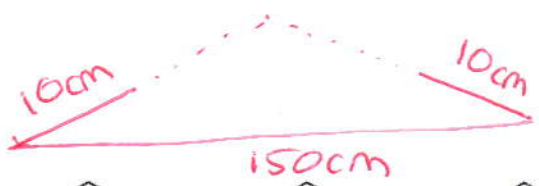
14 Is it possible to draw a triangle with **sides** 150cm, 10cm and 10cm?

[Extra]

☐ Yes ☑ No

Explain your answer.

BECAUSE 10CM AND 10CM NEED TO BE MORE THAN 150CM IF THEY ARE MAKING A TRIANGLE

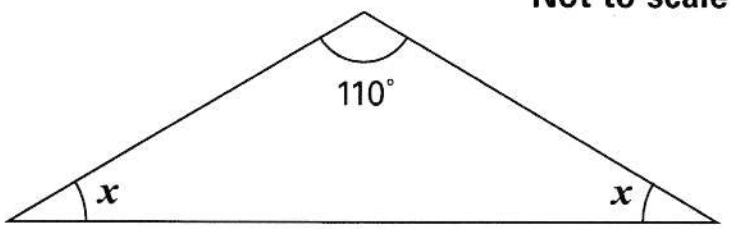


[1 mark]

15 Here is an isosceles triangle.

[2005]

Not to scale



Calculate the size of angle x.

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

180 − 110 = 70

[so x + x = 70]

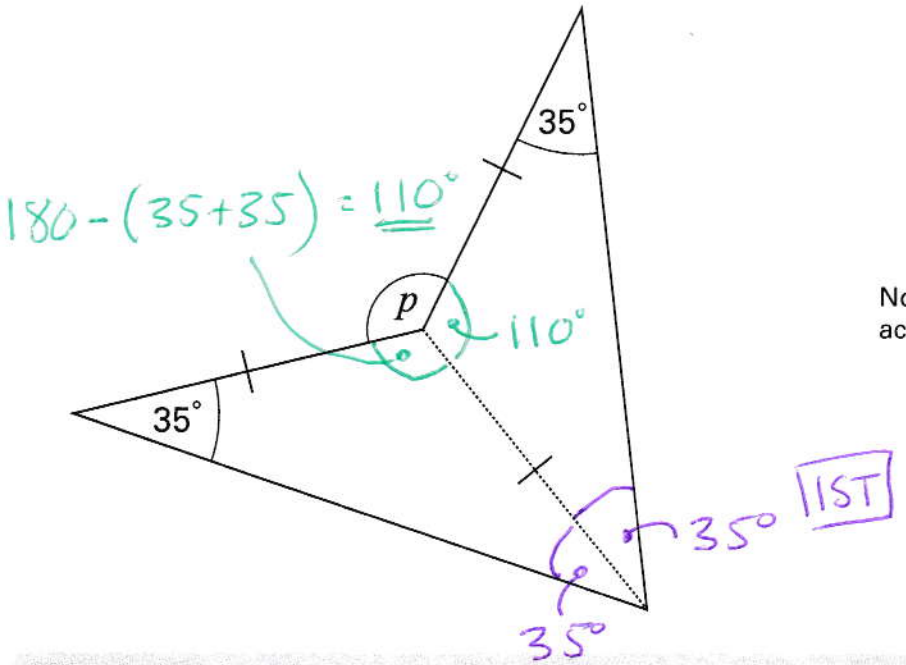
$x =$ 35 °

[1 mark]

---

16 This shape has been made from two congruent **isosceles** triangles.

[Extra]



Not drawn accurately

What is the size of angle p?

360 − 2 × 110

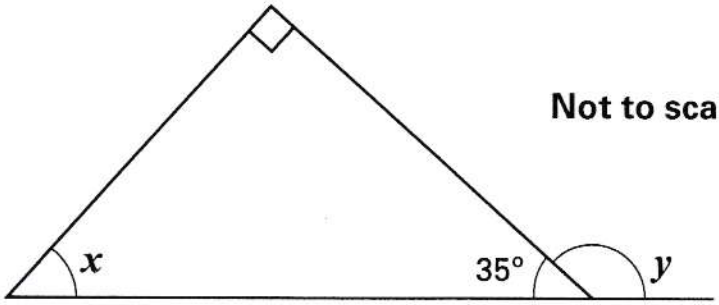
= 360 − 220

140 °

[2 marks]

17 Look at this diagram.

[2002]



Not to scale

Calculate the size of angle x and angle y.

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

$x = 180 - (90 + 35)$

$x =$ 55°

$y = 180 - 35$

$y =$ 145°

[2 marks]

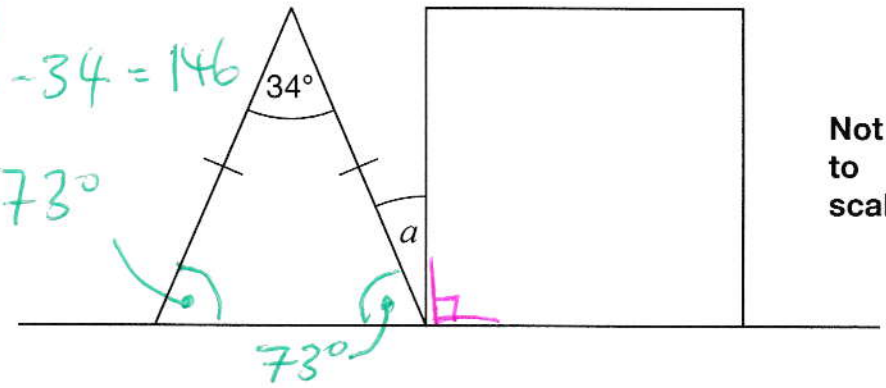
18 The diagram shows an isosceles triangle and a square on a straight line.

[Extra]

1ST

$180 - 34 = 146$

$\frac{146}{2} = 73°$



Not to scale

Calculate angle a.

2ND

$a = 180 - (90 + 73)$

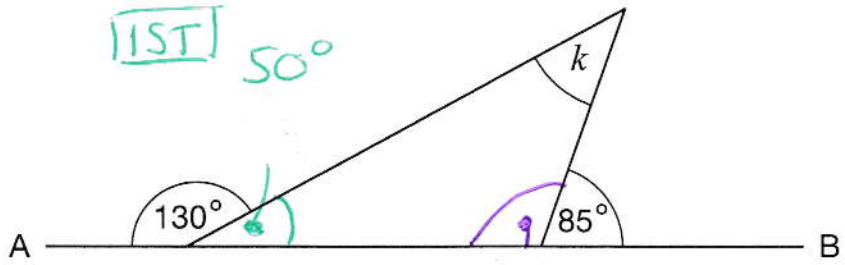
$= 180 - 163$

17°

[2 marks]

19 [Extra]

Look at the diagram.



Not drawn accurately

AB is a straight line.

2ND 95°

Work out the size of angle k

$k = 180 - (50 + 95)$

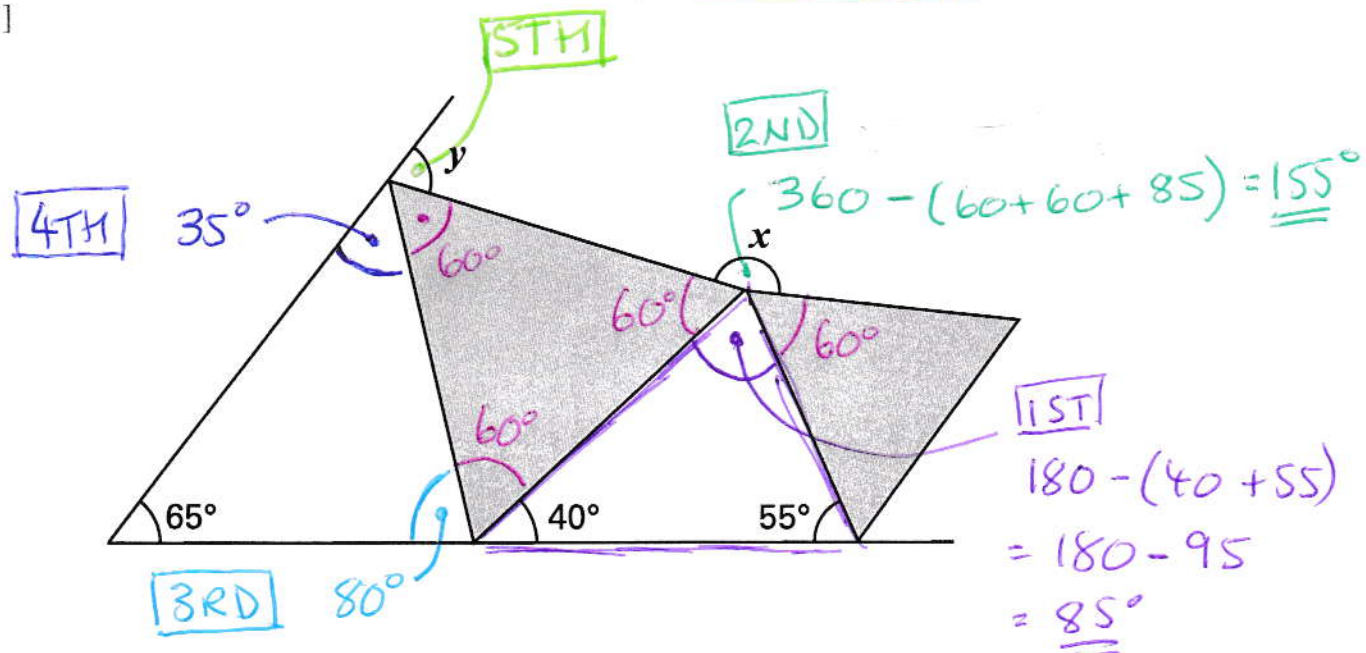
$= 180 - 145$

35 °

[2 marks]

20 [2001]

The diagram shows two shaded **equilateral triangles.**



Calculate the size of the **angle x** and **angle y**.

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

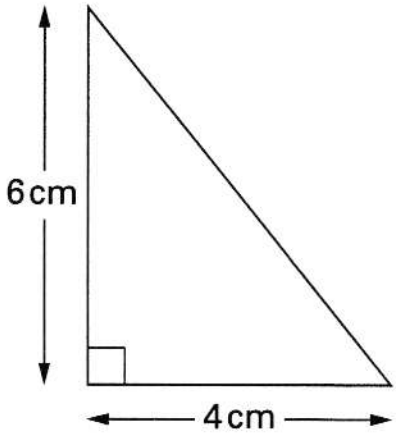
$x =$ 155 ° $y =$ 85 °

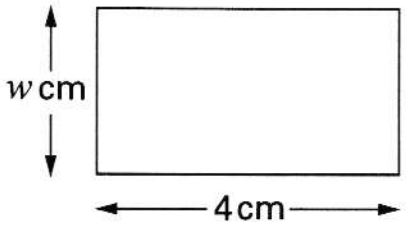
$y = 180 - (35 + 60)$

[2 marks]

21 The triangle and the rectangle below has the **same area**.

[Extra]





Work out the value of w.

Show your method

$A = \frac{1}{2} \times 6 \times 4$

$= \frac{1}{2} \times 24$

$= 12$

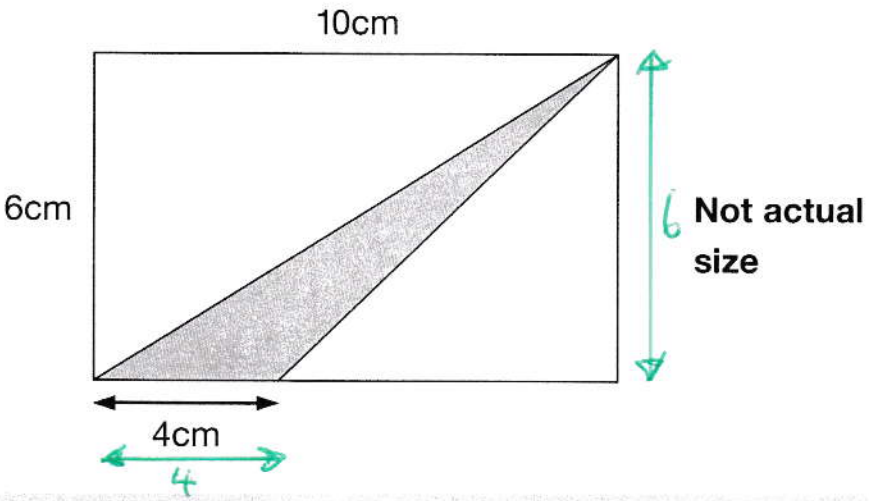
$w = \frac{12}{4} = 3$

3

[2 marks]

22 The diagram shows a shaded triangle inside a rectangle.

[Extra]



What is the area of the shaded triangle?

$A = \frac{1}{2} \times 4 \times 6$

12 cm²

[2 marks]