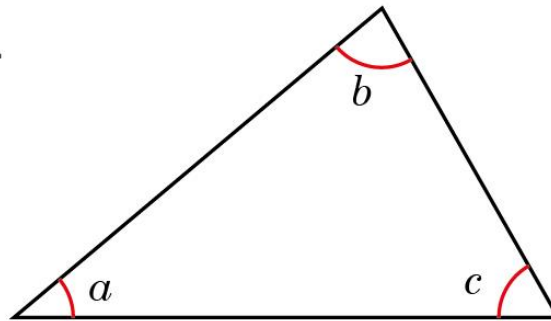
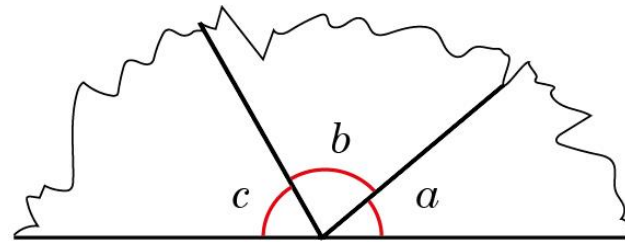


Angles in a triangle

1 Here is a triangle.



- a) The three vertices are torn off the triangle and arranged on a straight line.



What is the sum of the three angles?

How do you know?

1

b) Now measure the sizes of angles a , b and c in the triangle.

$a = \boxed{}$

$b = \boxed{}$

$c = \boxed{}$

c) What is the total of angles a , b and c ?

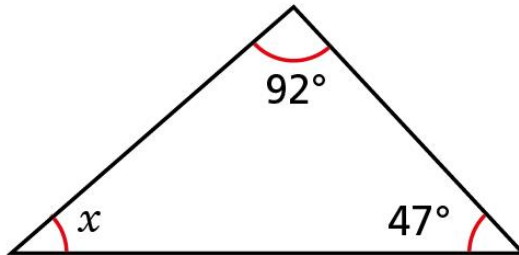
d) Complete the sentence.

Angles in a triangle _____

2 Work out the sizes of the unknown angles.

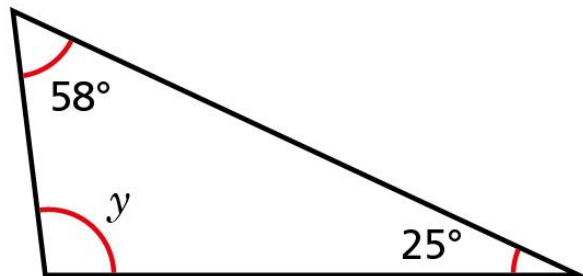
Give reasons for your answers.

a)



$x =$ because _____

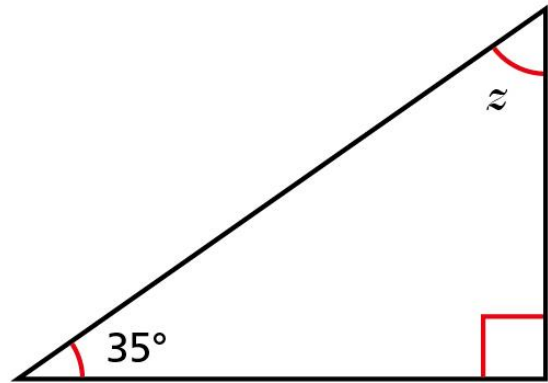
b)



$y =$ because _____

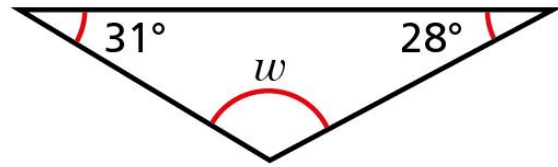
2

c)



$z =$ because _____

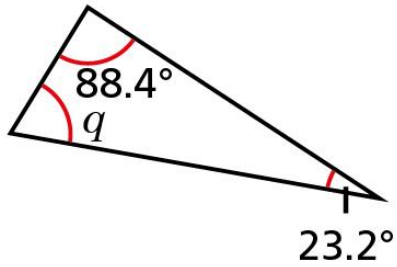
d)



$w =$ because _____

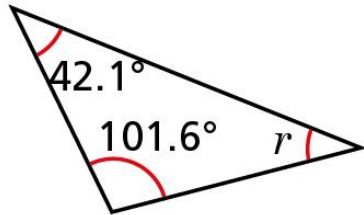
3 Work out the unknown angles.

a)



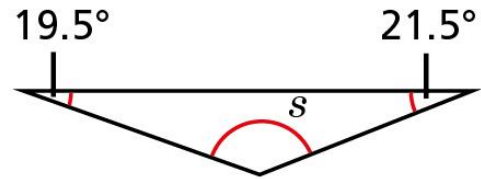
$$q = \boxed{}$$

b)



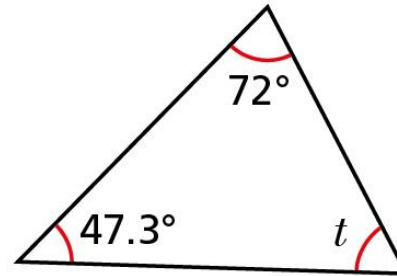
$$r = \boxed{}$$

c)



$$s = \boxed{}$$

d)



$$t = \boxed{}$$

Discuss your reasons with a partner.



4

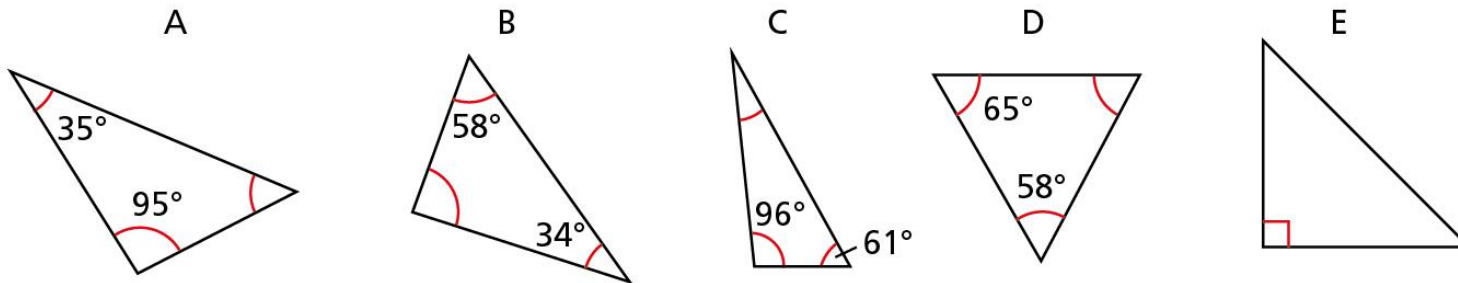
- a) Two angles in a triangle are 42° and 57° .
What is the size of the third angle?

- b) Two of the angles in a triangle are 12° .
What is the size of the third angle?

- c) One of the angles in a triangle is 38° . Another angle is twice the size of the first angle.
What is the size of the third angle?



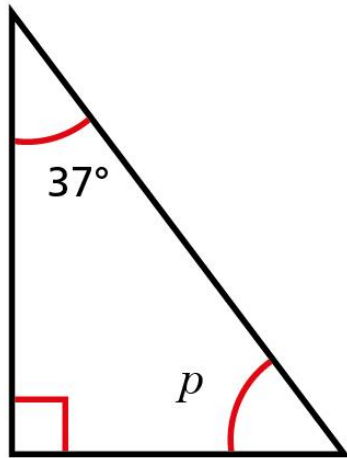
5 Sort the triangles into the table.



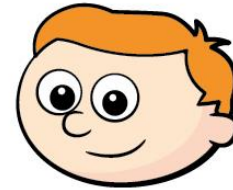
0 acute angles	1 acute angle	2 acute angles	3 acute angles

Are any of the columns empty? Why?

6



$p = 143^\circ$ because angles
in a triangle sum to 180°
and $180 - 37 = 143$



Do you agree with Ron? _____

Explain your answer.
