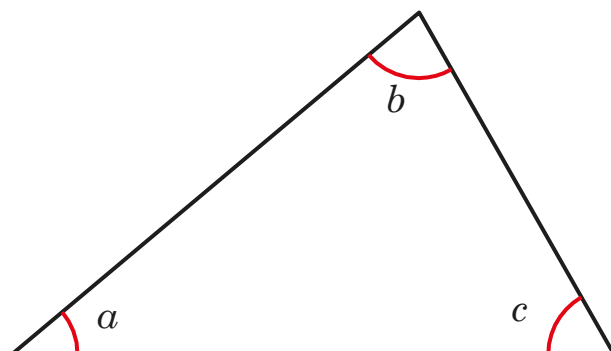
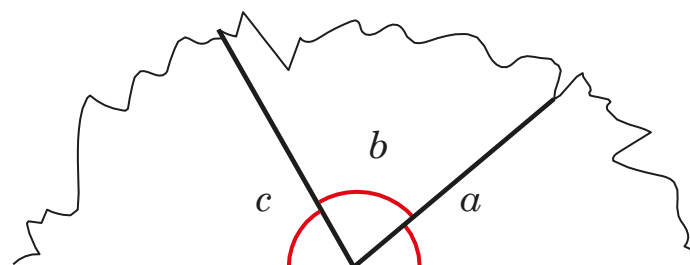


Angles in a triangle

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?

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

 $a =$
 $b =$
 $c =$

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

- d) Complete the sentence.

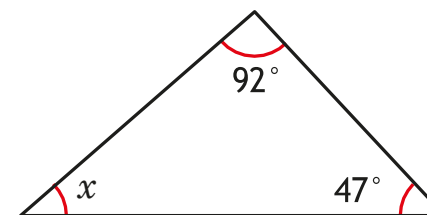
Angles in a triangle _____

2

Work out the sizes of the unknown angles.

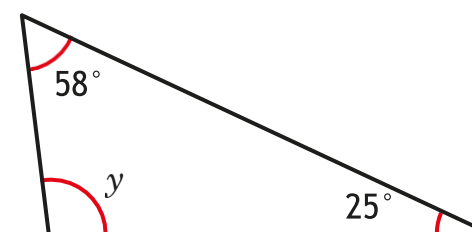
Give reasons for your answers.

a)



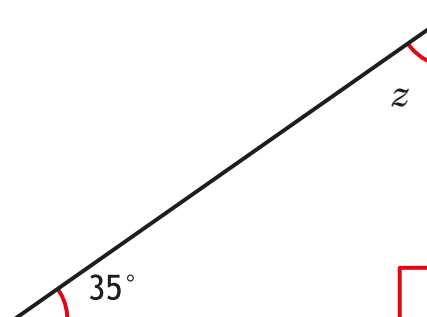
$x =$ because _____

b)



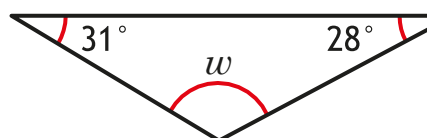
$y =$ because _____

c)



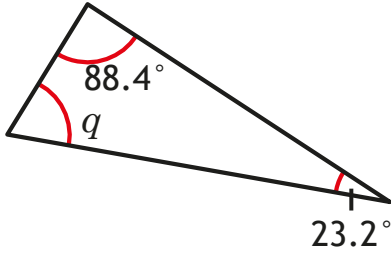
$z =$ because _____

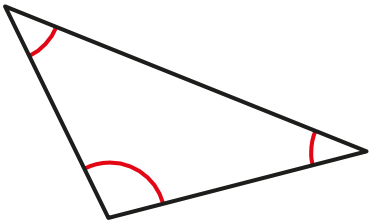
d)

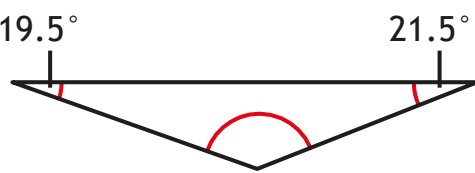


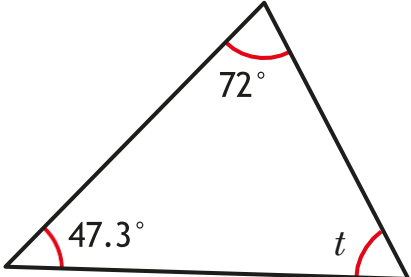
$w =$ because _____

3 Work out the unknown angles.

a)  $q = \boxed{}$

b)  $r = \boxed{}$

c)  $s = \boxed{}$

d)  $t = \boxed{}$

Discuss your reasons with a partner.

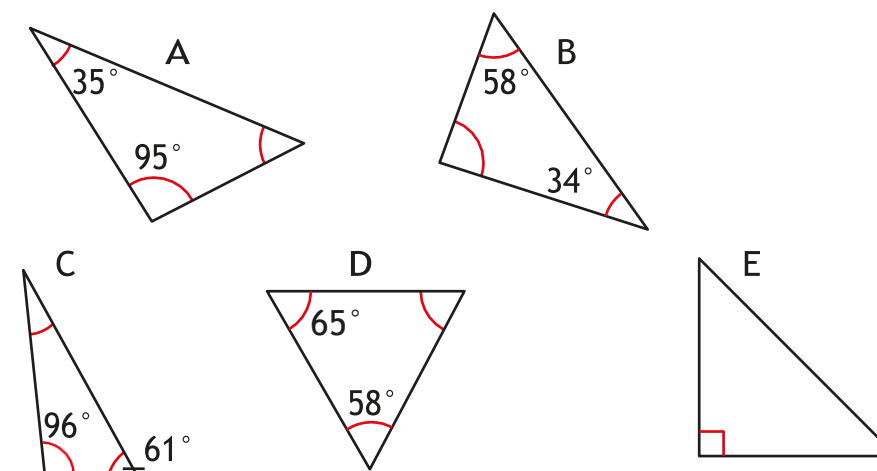


4 a) Two angles in a triangle are 42° and 57° .
What is the size of the third angle?

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?

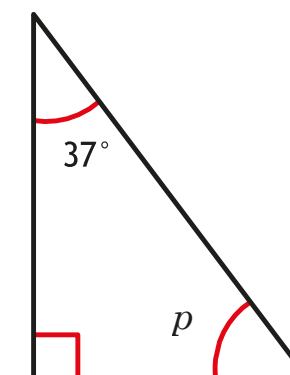
5 Sort the triangles into the table.



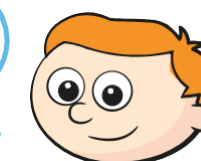
0 acute angles	1 acute angle	2 acute angles	3 acute angles

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.
