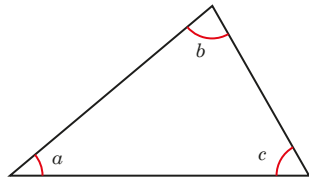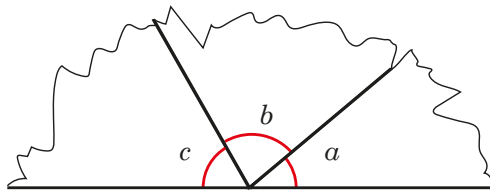**1** Here is a triangle.

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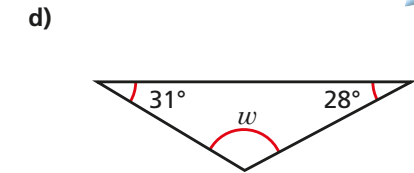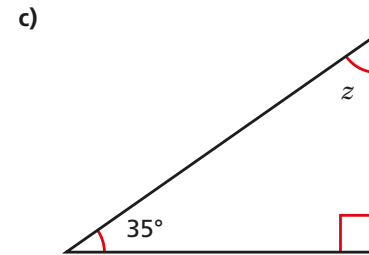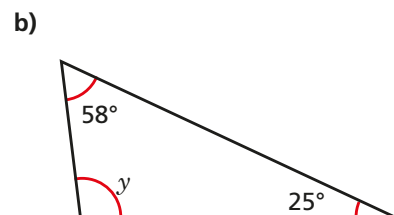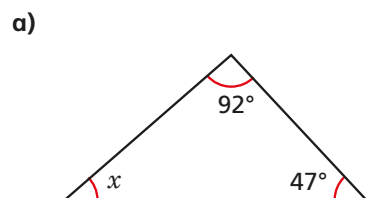
c) What is the total of angles a, b and c?

d) Complete the sentence.
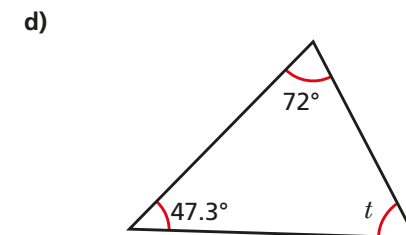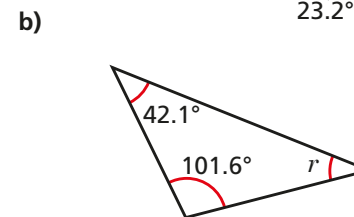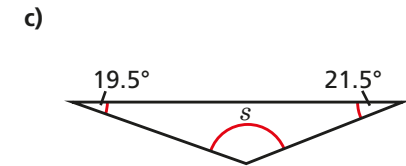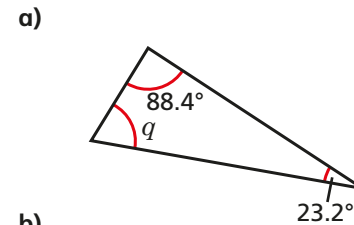
Angles in a triangle _____

2 Work out the sizes of the unknown angles.

Give reasons for your answers.

a)

b)

c)

d)

3 Work out the unknown angles.

a)

b)

c)

d)

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?

c)

d)

3 Work out the unknown angles.

a)

b)

c)

d)

Discuss your reasons with a partner.
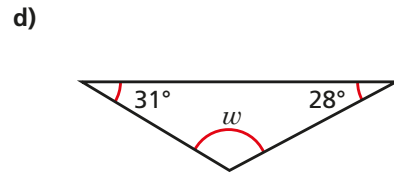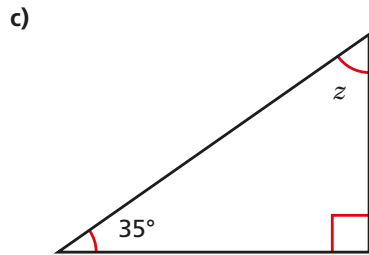
4 **a)** Two angles in a triangle are 42° and 57°.

What is the size of the third angle?

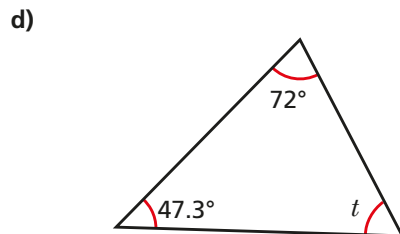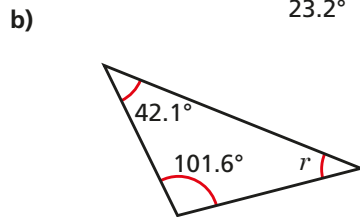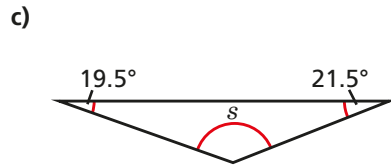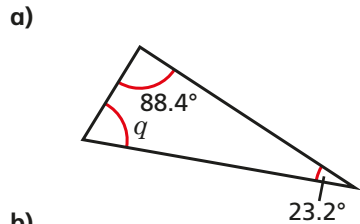**b)** Two of the angles in a triangle are 12°.

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.
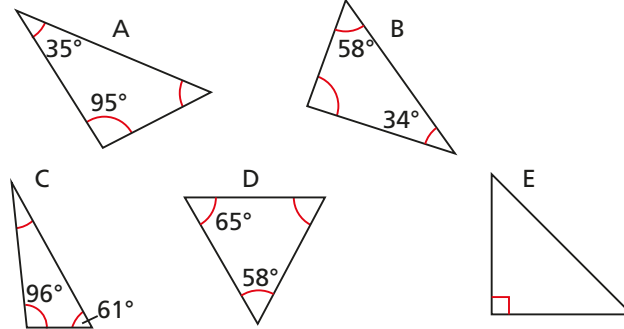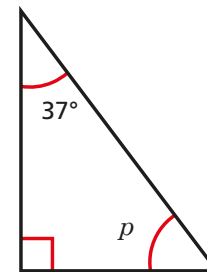
What is the size of the third angle?

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° because angles in a triangle sum to 180° and 180 − 37 = 143

Do you agree with Ron?

Explain your answer.