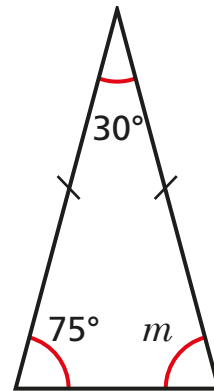


Angles in a triangle – special cases

1 Here is a triangle.



a) What type of triangle is it?

How do you know?

b) Work out the size of angle m .

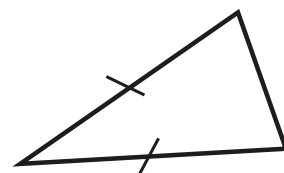
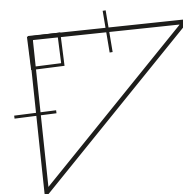
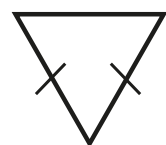
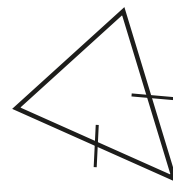
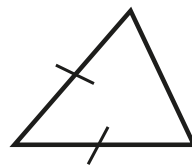
c) What do you notice?

d) Complete the sentence to describe the angles in an isosceles triangle.

In an isosceles triangle _____

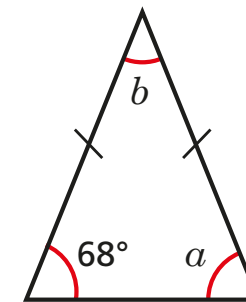


2 Identify and label the angles that will be equal in each triangle.



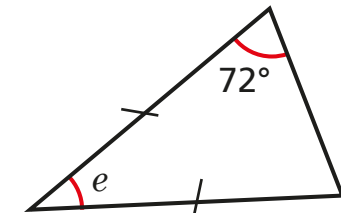
3 Work out the sizes of the unknown angles.

a)



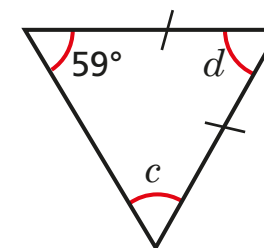
$$a = \boxed{} \quad b = \boxed{}$$

c)



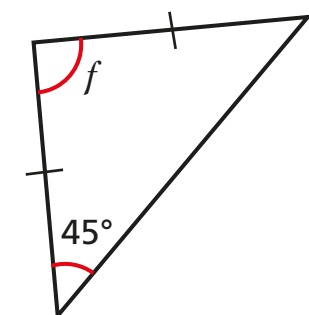
$$e = \boxed{}$$

b)



$$c = \boxed{} \quad d = \boxed{}$$

d)

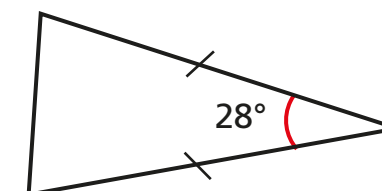


$$f = \boxed{}$$

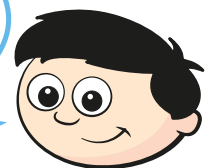
Talk about your reasons with a partner.



4 Dexter is working out the unknown angles in triangles.



I can't work out either of the missing angles because I don't have enough information.

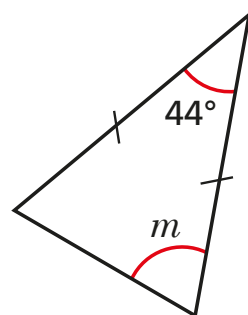


Do you agree with Dexter? _____

Explain your answer.

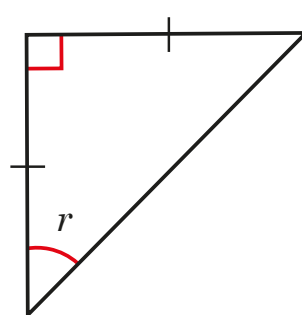
5 Work out the sizes of the unknown angles.

a)



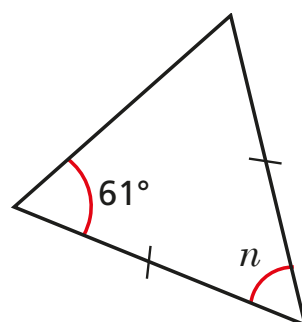
$m =$

c)



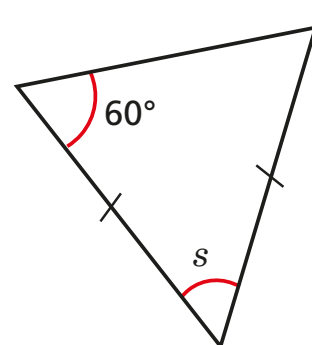
$r =$

b)



$n =$

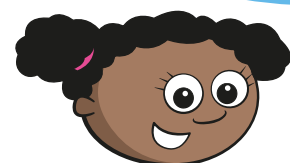
d)



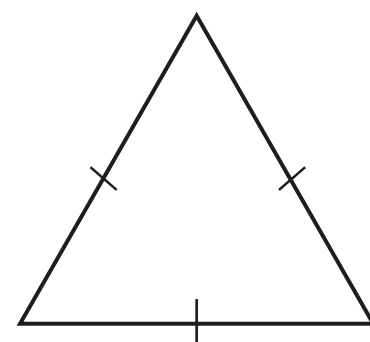
$s =$

6 Whitney and Jack are working out the angles in this triangle.

I can't work out the angles in this triangle because I don't know any of them.



Whitney



I know the size of all the angles in this triangle.



Jack

Who do you agree with? _____

Talk about it with a partner.

7 Are the statements true or false?

- a) Every isosceles triangle is equilateral. _____
- b) Every equilateral triangle is isosceles. _____
- c) A right-angled triangle can be equilateral. _____
- d) A right-angled triangle can be isosceles. _____

Explain your answers to a partner.

8 Two angles in a triangle are 43° and 74° .

Is the triangle isosceles? _____

Show your workings.

9 One angle in an isosceles triangle is 29° .

What could the other angles be? Give two possible answers.

10 Angle b is twice the size of angle a .

Work out the size of angle c .

