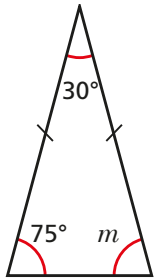
Angles in a triangle – special cases

1 Here is a triangle.



a) What type of triangle is it?

How do you know?

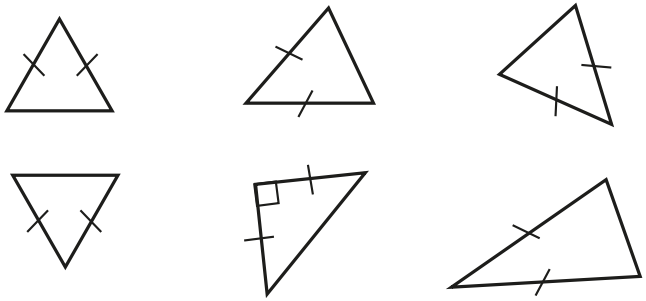
b) Work out the size of angle m.

c) What do you notice?

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

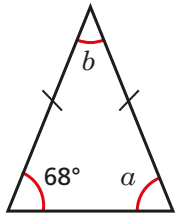
In an isosceles triangle _____

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

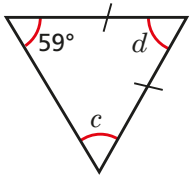


3 Work out the sizes of the unknown angles.

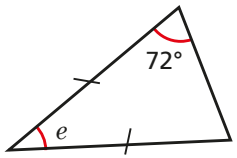
a)



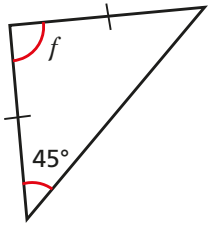
b)



c)

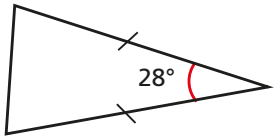


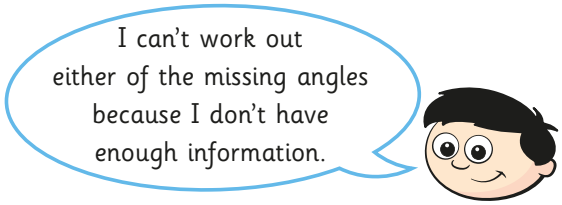
d)



Talk about your reasons with a partner.

4 Dexter is working out the unknown angles in triangles.



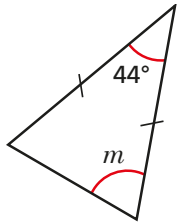


Do you agree with Dexter?

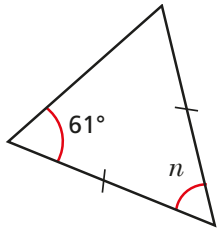
Explain your answer.

5 Work out the sizes of the unknown angles.

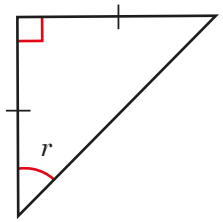
a)



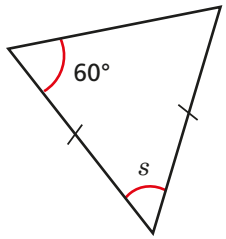
b)



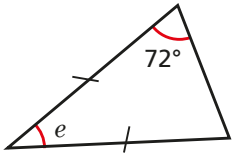
c)



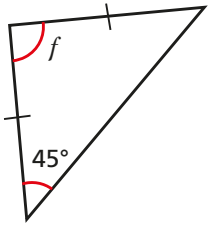
d)



c)

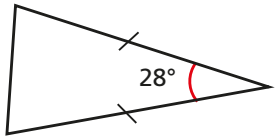


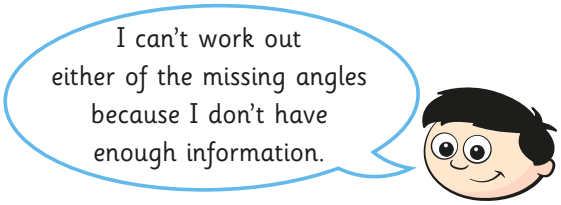
d)



Talk about your reasons with a partner.

4 Dexter is working out the unknown angles in triangles.



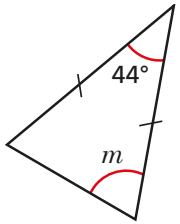


Do you agree with Dexter?

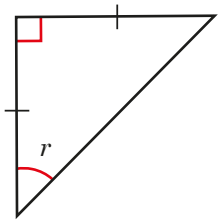
Explain your answer.

5 Work out the sizes of the unknown angles.

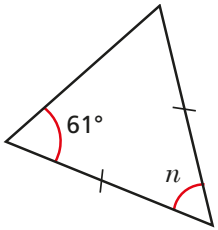
a)



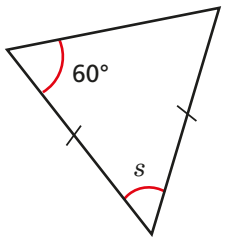
c)



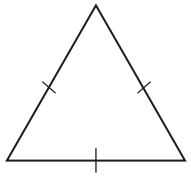
b)

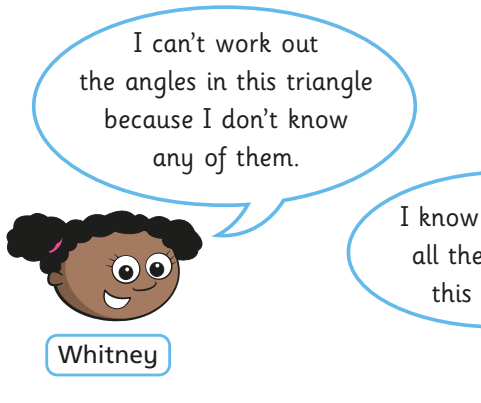


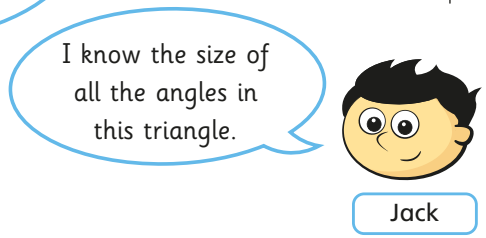
d)



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







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.