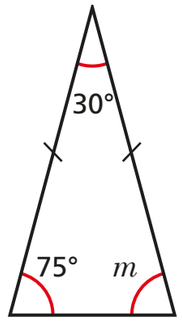
# Angles in a triangle – special cases

**1** Here is a triangle.




**a)** What type of triangle is it?

_____

How do you know?

_____

_____

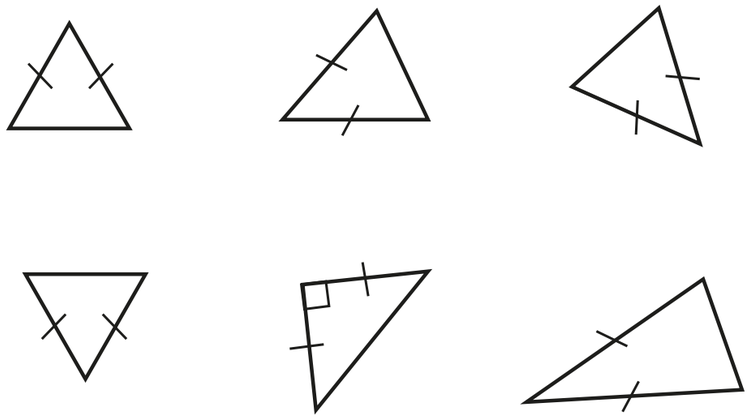
**b)** Work out the size of angle $m$.

**c)** What do you notice?

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

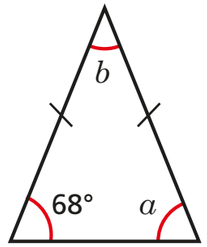
In an isosceles triangle _____

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



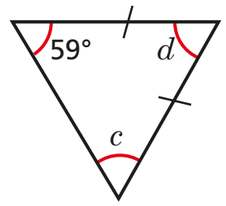
**3** Work out the sizes of the unknown angles.

**a)**



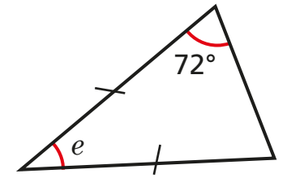

$a$ = ____ $b$ = ____

**b)**



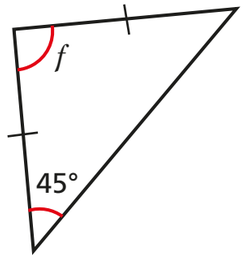

$c$ = ____ $d$ = ____

**c)**




$e$ = ____

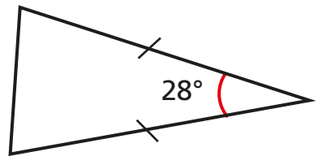
**d)**

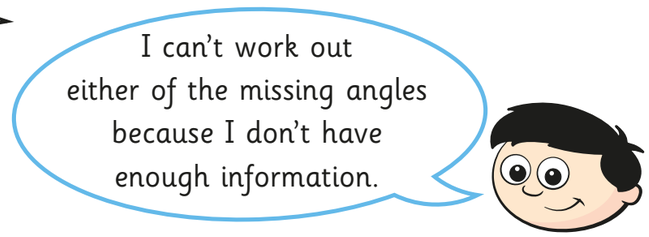



$f$ = ____

Talk about your reasons with a partner.

**4** Dexter is working out the unknown angles in triangles.




Do you agree with Dexter? _____

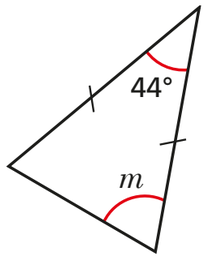
Explain your answer.

_____

_____

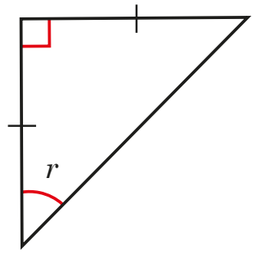
**5** Work out the sizes of the unknown angles.

**a)**



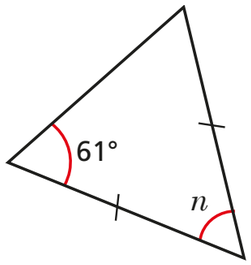

$m$ = ☐

**c)**



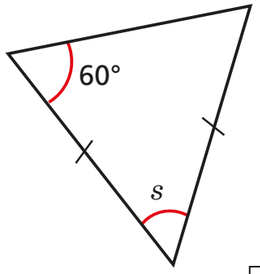

$r$ = ☐

**b)**



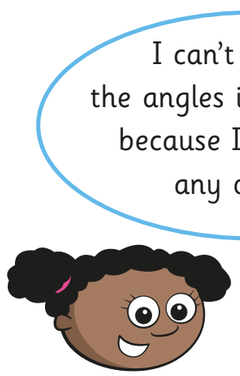

$n$ = ☐

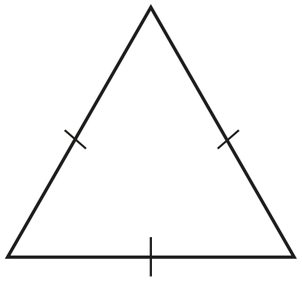
**d)**

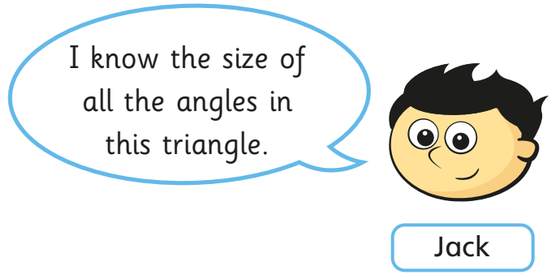



$s$ = ☐

**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.

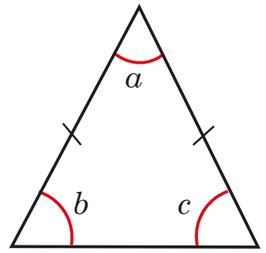
**9** One angle in an isosceles triangle is 29°.

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 $c$.

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