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.

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5. Work out the sizes of the unknown angles.

a)\[\begin{align*}
\triangle abc & : \\
m & = \boxed{\text{？}}
\end{align*}\]

b)\[\begin{align*}
\triangle def & : \\
n & = \boxed{\text{？}}
\end{align*}\]

c)\[\begin{align*}
\triangle ghi & : \\
r & = \boxed{\text{？}}
\end{align*}\]

d)\[\begin{align*}
\triangle jkl & : \\
s & = \boxed{\text{？}}
\end{align*}\]

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 \( c \).