

6.



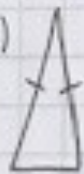
Jack is correct. The lines on each side of the triangle means that the sides of the triangle are the same length. This triangle must be an equilateral triangle.

In an equilateral triangle all sides and angles are the same.  
There are 3 angles.

$$180^\circ \div 3 = 60^\circ. \text{ Each angle is } 60^\circ.$$

$$60^\circ + 60^\circ + 60^\circ = 180^\circ$$

7. a)



False - this isosceles triangle is clearly not equilateral.

b) True - isosceles means at least 2 sides and angles the same length. In an equilateral triangle, all sides are the same length and angles the same.

d) True



- This right-angle triangle is isosceles as 2 sides and angles are the same.

Opps!

c) false - In Q6 we worked out that all the angles in an equilateral triangle are  $60^\circ$ .  
A right-angle is  $90^\circ$ .

8. We know angles in a triangle add to  $180^\circ$ .

$$43^\circ + 74^\circ + ? = 180^\circ$$

$$? = 63^\circ$$

All these angles are different so it can't be an isosceles triangle.

9. Option 1  $\rightarrow$  the two angles the same are  $29^\circ$ .

$$29^\circ + 29^\circ + ? = 180^\circ \quad ? = 122^\circ$$

So the angles are  $29^\circ$ ,  $29^\circ$  and  $122^\circ$ .

Option 2  $\rightarrow$   $29^\circ$  is the angle on its own.

$$29^\circ + ? + ? = 180^\circ$$

$$? + ? = 151^\circ \quad ? = 75.5^\circ$$

So the angles are  $29^\circ$ ,  $75.5^\circ$  and  $75.5^\circ$

10. b and c are equal because it is isosceles.

b is twice a.

a

b

c

}  $180^\circ$

I can see there are 5 equal pieces.

$$180^\circ \div 5 = 36^\circ$$

$$a = 36^\circ, b = 72^\circ, c = 72^\circ$$