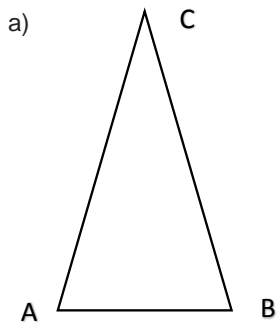


Isosceles triangle- angle a is  $3x-6$  and angle c is  $2x$ . What is the value of  $x$

**Solution:**

It has two cases:



If angle  $A =$  angle  $B$ , we have next equation:

$$(3x - 6) * 2 + 2x = 180$$

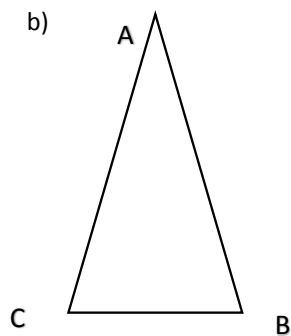
Let's solve it:

$$8x - 12 = 180$$

$$8x = 192$$

$$x = 24$$

Then  $A=B = 3 * 24 - 6 = 66^\circ$ ,  $C=2 * 24 = 48^\circ$ ;  $66+66+48=180^\circ$  – *Correct*



If angle  $C =$  angle  $B$ , we have next equation:

$$(3x - 6) + 2x * 2 = 180$$

Let's solve it:

$$7x - 6 = 180$$

$$7x = 186$$

$$x = 26.57$$

Then  $C=B = 2 * x = 53.14^\circ$ ,  $A=3 * 26.57 - 6 = 73.72^\circ$ ;  $53.14+53.14+73.72=180^\circ$  – *Correct*

**Answer  $x=24$ ;  $x=26.57$**