

From the question you will find that two equations can be made

$$x^2 = x + 12 \quad \Leftrightarrow \text{Equation 1}$$

$$x^3 = 9x \quad \Leftrightarrow \text{Equation 2}$$

Looking at equation 1

$$x^2 - x - 12 = 0$$

$$(x - 4)(x + 3) = 0$$

so  $x$  can equal 4 or -3

substitute these values into equation 2  
to find the one that satisfies it

$$x := 4$$

$$x^3 = 64$$

$$9x = 36$$

Therefore  $x^3$  is not equal to  $9x$  -  $x=4$  is not a solution

$$x := -3$$

$$x^3 = -27$$

$$9x = -27$$

Therefore -3 is the solution