

A **linear equation** is a polynomial equation whose degree is 1, because the highest degree of the monomials is one (the highest power is 1, in x). Because of this, we'll have **one solution**, if it has a solution, some don't.

In this section we are going to resolve exercises with linear equations, the typical type of equations we'll encounter in our day to day life. The solution requires a layout and a resolution of the equation with an unknown factor.

The exercises are in order of increasing difficulty, starting with simple notions like representing the double, triple and consecutive numbers with algebra.

Although we suppose we know how to resolve this type of equations,

Trial & Error Method

We use trial and error method,

$$5p + 2 = 17$$

Put, $p = 0$
 $5(0) + 2 = 17$
 $\Rightarrow 2 \neq 17$

Put, $p = 1$
 $5(1) + 2 = 17$
 $\Rightarrow 7 \neq 17$

Put, $p = 2$
 $5(2) + 2 = 17$
 $\Rightarrow 12 \neq 17$

Put, $p = 3$
 $5(3) + 2 = 17$
 $\Rightarrow 17 = 17$

Hence $p = 3$

Try them

Find the numbers, in each case, that apply:

1. Double it plus 5 is 35
2. Adding its consecutive number we obtain 51
3. Adding its double, its half and 15 we obtain 99
4. Its quarter part is 15