

## Answer on Question # 42728 – Math - Algebra

Simultaneous equation  $x-y=-3$  and  $x^2-y=9$ .

**Solution:**

Let's find  $x$  and  $y$ .

$$\begin{cases} x - y = -3 \\ x^2 - y = 9 \end{cases}$$

Let's express  $x$  from first expression, and put it in second expression.

$$\begin{cases} x = y - 3 \\ (y - 3)^2 - y = 9 \end{cases}$$

Let's open brackets.

$$\begin{cases} x = y - 3 \\ y^2 - 6 * y + 9 - y = 9 \end{cases}$$

We can get such expression  $y^2 - 6 * y + 9 - y = 9$ , let's simplify it.

$$y^2 - 7 * y = 0$$

$$y(y - 7) = 0$$

From here:  $y = 0$  and  $y = 7$ .

Now we know  $y$ , we can find  $x \Rightarrow x = -3$  and  $x = 4$ .

**Answer:** Pairs of variables  $(-3, 0)$  and  $(4, 7)$  will be solution of simultaneous equation.