

### Answer on Question #45344 – Math – Algebra

I asked two people for their ages. I asked them to add the ages together. One gave me 44 and the other 1,280. The first person had subtracted one age from the other and the second person had multiplied them together. What were their ages?

#### Solution:

$x$  – age of the first person;

$y$  – age of the second person;

$$\begin{cases} x - y = 44 & (1) \\ x \cdot y = 1280 & (2) \end{cases}$$

From the first equation:

$$y = x - 44 \quad (3)$$

(3)in(2):

$$x \cdot (x - 44) = 1280$$

$$x^2 - 44x = 1280$$

$$x^2 - 44x - 1280 = 0$$

Roots of the equation:  $x = -20, 64$

We need only positive root because it is age:  $x = 64$ ;

$$y = x - 44 = 64 - 44 = 20$$

**Answer:** their ages were sixty-four and twenty respectively.