

Answer on Question #57300 – Math – Algebra

A roadside vegetable stand sells pumpkins for \$5 each and squashes for \$3 each. One day they sold 6 more squash than pumpkins, and their sales totaled \$98. Write and solve a system of equations to find how many pumpkins and squash they sold

Solution

Let x be the number of pumpkins sold and y be the number of squash sold.

System of equations is

$$\begin{cases} 5x + 3y = 98 \\ y = x + 6 \end{cases}$$

Substitute for $y = x + 6$ into the first equation of the system

$$5x + 3(x + 6) = 98$$

Open brackets

$$5x + 3x + 18 = 98$$

Collect similar terms

$$8x = 98 - 18$$

Simplify

$$8x = 80$$

Divide both sides by 8

$$x = 10$$

Recall

$$y = 10 + 6$$

hence

$$y = 16$$

Answer: they sold 10 pumpkins and 16 squashes.