

Answer on Question #70169 – Math – Algebra

Question

A tire manufacture dilutes a 25% sulfuric acid solution with a 10% sulfuric acid solution in order to produce 150 liters of 18% sulfuric acid solution. How much of the 10% and how much of the 25% must be used?

Solution

x = liters of the 25% acid solution used

$150 - x$ = liters of the 10% acid solution used

$$0.25x + 0.10(150 - x) = 0.18 \cdot 150$$

$$0.15x = 0.08 \cdot 150$$

$$x = 0.08 \cdot 150 / 0.15$$

$$x = 80$$

80 liters of 25% acid solution was used.

$150 - 80 = 70$ liters of 10% acid solution was used.

Answer: 80 liters of 25% acid solution, 70 liters of 10% acid solution.