Answer on Question #81681 – Math – Algebra

Question

30% silver is mixed with 200g of a 10% silver alloy. How much of the 30% alloy must be used to obtain an alloy that is 24% silver?

Solution

x g = mass of 30% alloy;

0.3x g = mass of silver in 30% alloy;

0.3x + 0.1 × 200 = 0.24 × (200+x) is the total mass of silver after mixing;

0.3x + 20 = 48 + 0.24x

0.3x – 0.24x = 48 – 20

0.06x = 28

$$x = \frac{28}{0.06}$$

x = 466.7

Answer:

466.7 g of the 30% alloy must be used to obtain an alloy that is 24% silver.