

Alligation or Mixture

EXERCISE 16C

For SSC CGL and CPO Exams

1. The ratios of copper to Zinc in alloys A and B are 3:4 and 5:9 respectively. A and B are taken in the ratio 2:3 and melted to form a new alloy C. What is the ratio of copper to Zinc in C?

SSC CGL Tier II (11/09/2019)

- (a) 8:13 (b) 3:5 (c) 9:11 (d) 27:43

2. A vessel contains a 32 litre solution of acid and water in which the ratio of acid and water is 5:3. If 12 litres of the solution are taken out and $7\frac{1}{2}$ litres of water are added to it, then what is the ratio of acid and water in the resulting solution?

SSC CGL Tier II (13/09/2019)

- (a) 4:7 (b) 5:6 (c) 4:9 (d) 8:11

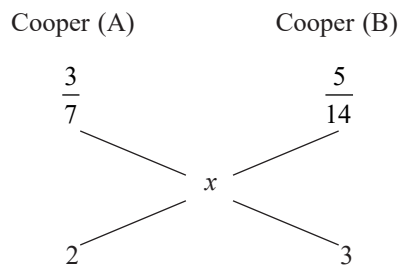
3. Fresh fruit contains 68% water and dry fruit contains 20% water. How much dry fruit can be obtained from 100 kg of fresh fruit

SSC CPO 16/06 2019 Shift-1

- (a) 80 (b) 60 (c) 40 (d) 20

SOLUTIONS

1. (d) Let the quantity of copper in New alloy = x
By allegation method

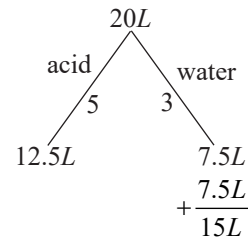


$$x = \frac{2 \times \frac{3}{7} + 3 \times \frac{5}{14}}{2+3} = \frac{\frac{6}{7} + \frac{15}{14}}{5} = \frac{27}{70}$$

$$\therefore \text{Zinc} = 70 - 27 = 43$$

New ratio cooper: Zinc in C = 27:43

2. (b) According to the question, remaining solution $32 - 12 = 20$ L



$$\text{New ratio} = 12.5L : 15L \\ = 5 : 6$$

3. (c) Quantity of water in 100 kg fresh fruit = $100 - 68 = 32$ kg

Let quantity of dry fruit = x

Then

$$(100 - 20) \% \text{ of } x = 32$$

$$\frac{80}{100} \times x = 32$$

$$x = \frac{5}{4} \times 32 = 40 \text{ kg}$$