Quiz Date: 5th August 2020

Q1. Two Jar contains mixture of milk and water. First jar contains 64% milk and second jar contains 26% water. In what ratio these two mixtures are mixed so that new mixture contains 68% milk.
(a) 4 : 7
(b) 6 : 5
(c) 5 : 7
(d) 3 : 2
(e) 2 : 1

Q2. There are two solutions of Sulphuric Acid (acid + water) with concentration of 50% and 80% respectively. They are mixed in a certain ratio to get a 62% sulphuric acid solution. This solution is mixed with 6 litres of water to get back 50% solution. How much of the 80% solution has been used in the entire process?
(a)16 L
(b)8 L
(c)10 L
(d)20 L
(e)25 L

Q3. Two casks of 48 L and 42 L are filled with mixtures of wine and water, the proportions in the two casks being respectively 13 : 7 and 18 : 17. If the contents(wine and water) of the two casks be mixed and 20 L of water is added to this mixture then what will be the proportion of wine to water in the resultant solution?
(a) 21 : 31
(b) 12 : 13
(c) 13 : 12
(d) 12 : 17
(e) 31 : 21

Q4. A shopkeeper gave an additional 20 per cent concession on the reduced price after giving 30 per cent standard concession on marked price of the article. If Arun bought that article for Rs. 1120, what was the marked price of article?
(a) Rs. 3000
(b) Rs. 2400
(c) Rs. 2400
(d) Rs. 2000
(e) None of these

Q5. There is some profit when an article is sold for Rs. 720. However when the same article is sold for Rs. 420, there is some loss. If the quantum of loss is two times the quantum of profit, find the cost price of the article.
(a) Rs. 620
(b) Rs. 700
(c) Rs. 520

(d) Rs. 840
(e) Cannot be determined

Q6. A shokeeper bought 150 calculators at the rate of Rs. 250 per calculator. He spent Rs. 2500 on transportation and packing. If the marked price of calculator is Rs. 320 per calculator and the shopkeeper gives a discount of 5% on the marked price, then what will be the profit percentage of the shopkeeper?
(a) 20%
(b) 14%
(c) 15%
(d) 16%
(e) 18%s

Q7. Mr. Usman bought two goat each for Rs. 6,600. He sold both goats to Mr. Razak, one at a loss of 16 ⅔% and other at a profit of 33⅓%. Find his overall profit/loss percentage in this transaction.
(a) 6%
(b) 25/3%
(c) 16/3%
(d) 20/3%
(e) 12%

Q8. The marked price of an LED TV is 66⅔% more than its cost price. This LED TV is sold to a person at a discount of 16 ⅔% on marked price. If selling price of LED TV is Rs. 4250 then find its cost price.
(a) Rs. 3060
(b) Rs. 3600
(c) Rs. 3006
(d) Rs. 2860
(e) Rs. 3040

Q9. A shopkeeper has 80 kg pure sugar. He mixes a certain quantity of salt (in kg) in it and made profit of 25% by selling the mixture at its cost price. If cost price of pure sugar was Rs. 24 per kg then how much amount of salt the shopkeeper mixed to the pure sugar (Assume cost of salt to be zero)?
(a) 10 kg

(b) 25 kg
(c) 20 kg
(d) 24 kg
(e) 40 kg

Q10. A manufacturer of cricket balls wants to earn 25% profit on manufacturing cost after giving a discount of 23 ⅓% on MRP marked by him. But due to some reasons he lost 25% of balls & he decided to offer discount of $7\frac{9}{13}$% on MRP of remaining balls. Find his overall profit% or loss%.
(a) 8% Profit
(b) 12% Profit
(c) 12% Loss
(d) 8% Loss
(e) 5% Profit

Directions (11-15): What should come in place of question mark (?) in the following question?

Q11. $\frac{1}{13} \times 3237 + \frac{3}{14} \times 5362 + 200\%$ of $1 = ? + 1335$
(a) 72
(b) 70
(c) 68
(d) 65
(e) 85

Q12. $3^3 \div 3^7 \times 27 \times 11.25 + 75\%$ of $45 = ?$
(a) 37.5
(b) 3.75
(c) 375
(d) 35.7
(e) 32.5

Q13. 36.5% of 140 ÷ 12.5% of 80 =?
(a) 6.12
(b) 4.71
(c) 5.11
(d) 5.91
(e) 8.11

Q14. $\frac{5}{8}$ of $616 \times 12 \div 8 + ? = 13 \times 21 + 71 + \frac{4}{3} \times ?$
(a) 7005
(b) 7.005
(c) 70.05

(d) 700.5
(e) 600.5

Q15. 3.5% of 40 + 3.5% of 80 =? % of 10
(a) 49
(b) 56
(c) 64
(d) 66
(e) 42

Solutions

S1. Ans.(d)
Sol.
Percentage of milk in first jar = 64%
Percentage of milk in second jar
= (100 − 26) = 74%

Jar 1		Jar 2

64%   74%
68%
6   4
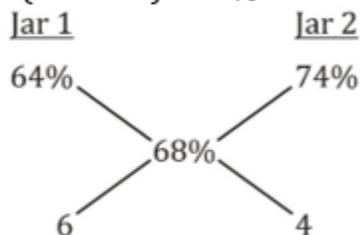
Now using allegation method
Required ratio = 3 : 2

S2. Ans.(c)
Sol.
Let x litres of 50% and
y litres of 80% solutions are used.
$$\frac{x}{y} = \frac{80-62}{62-50} \Rightarrow \frac{x}{y} = \frac{3}{2}$$
Solution get mixed in the ratio 3 : 2.
Let the value of newly formed solution = Z litres
$$\Rightarrow \frac{0.62\,Z}{Z+6} = \frac{1}{2}$$
$$\Rightarrow 1.24\,Z = Z + 6$$
$$\Rightarrow Z = \frac{6}{0.24} = 25$$
∴ Required quantity of mixture having 80% acid
$$= \frac{2}{5} \times 25 = 10 \text{ litres}$$

S3. Ans.(b)
Sol.

Required ratio

$$\frac{\frac{13}{20} \times 48 + \frac{18}{35} \times 42}{\left(\frac{7}{20} \times 48 + \frac{17}{35} \times 42\right) + 20}$$

$$= \frac{\frac{156}{5} + \frac{108}{5}}{\frac{84}{5} + \frac{102}{5} + 20}$$

$$= \frac{264}{286}$$

$$= 12 : 13$$

S4. Ans.(d)
Sol.

Let original price $= x$

$$x \times \frac{(100-30)}{100} \times \frac{(100-20)}{100} = 1120$$

$$x = Rs.\,2000$$

S5. Ans.(a)
Sol.

Let cost price = Rs. X
ATQ,
$$2(720 - x) = (x - 420)$$
$$1440 - 2x = x - 420$$
$$3x = 1860$$
$$\therefore x = 620 \text{ Rs.}$$

S6. Ans.(b)
Sol.

CP of 150 calculators = 150 × 250 = Rs. 37500

Total CP = 37500 + 2500 = Rs. 40000

MP of 150 calculators = 150 × 320 = Rs. 48000.

SP after discount = $48000 \times \frac{95}{100}$ = Rs. 45600.

∴ Percentage profit = $\frac{45600-40000}{40000} \times 100 = 14\%$

S7. Ans.(b)
Sol.

$16\frac{2}{3}\% \rightarrow \frac{1}{6}$

$33\frac{1}{3}\% \rightarrow \frac{1}{3}$

Total C.P. of both goats = 6600 × 2
                                            = Rs. 13,200

Total S.P. of both goats = $6600 \times \frac{5}{6} + 6600 \times \frac{4}{3}$
                                            = 14,300

∴ Percentage profit = $\frac{14300-13200}{13200} \times 100$

$= \frac{25}{3}\%$

S8. Ans.(a)
Sol.

Since, S.P. of LED TV = Rs. 4250

∴ M.P. of LED TV = $4250 \times \frac{100}{\left(100-\frac{50}{3}\right)}$ = Rs. 5100

∴ C.P. of LED TV = $5100 \times \frac{100}{100+\frac{200}{3}}$

$= 5100 \times \frac{3}{5}$

= Rs. 3060

S9. Ans.(c)
Sol.

Let x kg of salt is mixed in pure sugar

∴ Total S.P. of mixed sugar = (80 + x) × 24

And, total C.P. of pure sugar = 80 × 24

∴ ATQ $\frac{(80+x)\times24-80\times24}{80\times24} \times 100 = 25$

$\Rightarrow \frac{80+x-80}{80} \times 100 = 25$

$\Rightarrow$ x = 20 kg

S10. Ans.(b)

Sol.
Let he manufacture n balls and manufacturing cost of each ball is y
And x is marked price.
Now, ATQ
$x\left[1-\frac{7}{30}\right] = y \times \frac{5}{4}$
$\Rightarrow x \times \frac{23}{30} = y \times \frac{5}{4}$
$\Rightarrow x = y \times \frac{5}{4} \times \frac{30}{23} = y \times \frac{75}{46}$ ...(i)
After accident he sells $\frac{3}{4}n$ balls on a price of $x\left(1-\frac{1}{13}\right) = x \times \frac{12}{13}$
Total SP of $\frac{3}{4}n$ balls $= \frac{3}{4}.n.x.\frac{12}{13}$
$= \left(\frac{3}{4} \times n\right)\left(y \times \frac{75}{46}\right)\left(\frac{12}{13}\right)$
$= ny \times \frac{675}{598}$
Hence profit % $= \frac{ny \times \frac{675}{598} - ny}{ny} \times 100$
$= \frac{77}{598} \times 100 \cong 12\%$ profit
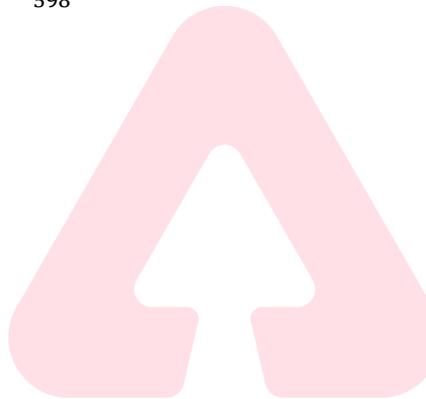
S11. Ans.(d)
Sol.
$\Rightarrow 249 + 1149 + 2 = ? + 1335$
$\Rightarrow ? = 1400 - 1335$
$= 65$

S12. Ans.(a)
Sol.
$\Rightarrow \frac{3^3 \times 27}{3^7} \times 11.25 + 45 \times \frac{3}{4}$
$\Rightarrow \frac{3^3}{3^4} \times 11.25 + 33.75$
$\Rightarrow 37.5$

S13. Ans.(c)
Sol.

$$\Rightarrow \frac{140 \times 36.5}{100} \times \frac{100}{80 \times 12.5}$$

$$\therefore ? = 5.11$$

S14. Ans.(d)
Sol.

$$\Rightarrow \frac{385 \times 12}{8} + ? = 344 + \frac{4}{3} \times ?$$

$$\Rightarrow 577.5 - 344 = \left(\frac{4}{3} - 1\right) \times ?$$

$$\Rightarrow ? = 3 \times 233.5$$

$$? = 700.5$$

S15. Ans.(e)
Sol.

$$\Rightarrow \frac{40 \times 3.5}{100} + \frac{80 \times 3.5}{100} = \frac{(?)}{10}$$

$$\Rightarrow \frac{140 + 280}{100} = \frac{?}{10}$$

$$\Rightarrow ? = 42$$
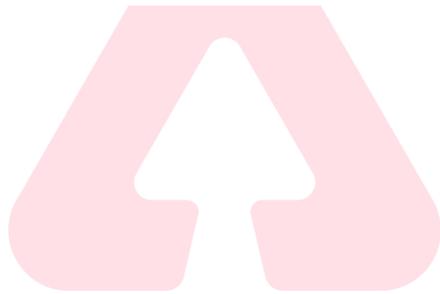
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