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Aptitude question bank
Profit & loss . Percentage

Assignment - 2

(1)

Solution :-> cost price suppose => x

$$\frac{25}{x} = \frac{(x-450) \times 100}{x} \quad 4 \quad 2$$

$$x = 4x - 1800$$

$$1800 = 3x$$

$$\boxed{x = 600}$$

Ans => (c) 600

(2) solution =>

$$\Rightarrow \frac{240 \times 100}{1200} \quad 20$$

$$\Rightarrow 20\%$$

Ans (c) 20%

(3) solution

$$\text{profit\%} \Rightarrow \frac{160 \times 100}{800} \quad 20$$

$$\text{profit \%} \Rightarrow 20\%$$

Ans => (b) 20%

Date :
P. No. :

④ solution :-

Suppose ⇒ cost price ⇒ x ₹

$$2\% = \frac{(x-1200)\times 10\%}{x}$$

$$2\,x = 10x - 12000$$

$$8x = 12000$$

$$x = \frac{12000}{8} \Rightarrow \frac{3000}{2} \Rightarrow 1500$$

Ans ⑥ ₹ 1500 |

⑤ solution

$$\Rightarrow \text{Profit \%} \Rightarrow \frac{20}{80} \times 100$$

$$\text{profit \%} \Rightarrow 20\% \text{ |}$$

⑥ solution

suppose sell price ⇒ 100 ↓ 20 %

⇒ 80 ₹

↓ 10 %

⇒ 72 ₹

100 − 72 ⇒ 28

Ans ⇒ (a) 28 %

⑦ Solution

$$\left(x - \frac{x \times 20}{100}\right) = 800$$

$$\frac{80x}{100} = 800 \quad 10$$

$$x = 1000$$

Ans ⇒ ⑥ ₹ 1000 |

(8) Solution :-

Suppose cost price $= x$

$$25 = \frac{(1800 - x) \times 100}{x}$$

$$25x = (1800 - x)100$$

$$x = (1800)4 - 4x$$

$$5x = (1800) \times 4$$

$$x = \frac{1800 \times 4}{5} \quad 360$$

$$x = 360 \times 4$$

$$x = 1440$$

$$25x = (1800 - x)100$$

$$x = (1800)4 - 4x$$

$$5x = (1800)(4)$$

$$x = \frac{(1800)(4)}{5}$$

$$\Rightarrow 360 \times 4$$

$$\Rightarrow 1440$$

Ans $\Rightarrow$ (c) 1440

(9) Solution :->

selling price => $\frac{1500 \times 10}{100}$

=> ₹150 discount

~~Sellingpp~~

saling price => 1500 - 1500

=> ₹1350

Ans (b) 1350

(10) solution :->

=> $\frac{-50 \quad 100}{-150 \quad 3}$ => 33.33%.

Ans => profite % (c) 33.33%

Date :
P. No. :

(11) solution :-

suppose CP ⇒ 100

~~mp~~

marked price = cost price + markup

⇒ 100 + x

traders given a 15% discount on marked price

SP = MP − (15% of MP)

SP ⇒ MP × 0.85

20% profit, ~~on~~ selling price is also

SP ⇒ 100 + 20 ⇒ 120

$$120 = \frac{MP \times 85}{100}$$

$$\frac{120 \times 100}{85} = MP$$

$$\frac{24}{17}$$

$$\frac{24 \times 100}{17} = 100 + x$$

$$\frac{24 \times 100}{17} - 100 = x$$

$$\frac{24 \times 100 - 100 \times 17}{17} = x$$

$$\frac{7 \times 100}{17} = x$$

$$\frac{700}{17} = x \Rightarrow 41.18$$

$x = 40\%$

Ans ⇒ (c) 40%

(12)

solution :-)

$$1\% = \left(\frac{2250 - x}{x}\right) \times 100$$

$$x = 22500 - 10x$$

$$11x = 22500$$

$$x = 2045 \approx 200$$

A → (b)

(13)

solution

$$25 \Rightarrow \frac{(x - 800) \times 100}{800}$$

$$200 = x - 800$$

$$x = 1000$$

Ans ⇒ (b) ~~₹~~ 1000 |

(14)

$$1\% = \left(\frac{x - 15000}{x}\right) 100$$

$$1 = 10 - \frac{150000}{x}$$

$$x = 10x - 150000$$

$$9x = 150000$$

$$x = 50000$$

$$x = 16,666\frac{2}{3}$$

Ans (d) ~~₹ 16,800~~ (c) 16, 500

P. No. :

(15) Ans ⇒

% Profit ⇒ $\frac{\text{Profit} \times 100}{\text{cost price}}$

Cost price ⇒ 100

marked 50% ↑ ⇒ 150

discount ⇒ 20% ⇒ $\frac{150 \times 20}{100}$

⇒ 30

Selling price ⇒ ₹ 150 − 30

⇒ 120

⇒ $\frac{20 \times 100}{100}$

Ans ⇒ (a) 20%

(16) Ans ⇒

cost price = 400

~~sell proof~~

sell price = ~~₹~~ x

$$12 = \frac{(400 - x)}{400} \times 100$$

$$48 = 400 - x$$

$$x = ₹448$$

marked price ⇒ sell price

sell price ⇒ marked price - 5% of mp

$$448 = x - \frac{5x}{100}$$

$$=$$

$$\frac{95x}{100} = 448$$

$$x = \frac{448 \times 100}{95}$$

$$x \Rightarrow \frac{448}{.95}$$

$$x = 471.58$$

Ans ⇒ (4) mark price : close ~~₹~~ 500

(17) solution ⇒

⇒ ~~81~~

⇒ $\frac{\cancel{86} \times 100}{\cancel{480}}$

$\cancel{40}\ 5$

⇒ 20

Ans ⇒ profit (c) 20%.

(18)

Ans ⇒ Profit % ⇒ $\frac{\cancel{50}^{1}}{\cancel{500}} \times 100$

10%

⇒ 10

Ans (c) 10%.

(19) solution ⇒

$15 = \left(\frac{2300 - x}{x}\right) \times 100$

$15x = (2300)(100) - (100)(x)$

$115x = (2300)(100)$

$x = \frac{(2300)(100)}{115}$

$x = 2000$

Ans (b) ₹ 2000 |

(20) Solution

% profit ⇒ $\frac{150}{750} \times 100$

⇒ 20%

Ans ⇒ 20% profit

(21)

$20 = \frac{(x-640)100}{x}\ 5$

$x \Rightarrow 5x - (640)(5)$

$4x = 640 \times 5$

$3x = 3200 \times 5$

$x = \frac{1600}{3}$

$x = 533$

$x = 160 \times 5$

$x = 800$

∴ Ans (1) ₹ 800

(22)

$20 = \frac{(9600-x)100}{x}\ 5$

$x = (9600)(5) - 5x$

$6x = (9600)(5)$

$x = (1600)(5)$

$x = 8000$

Ans (b) ₹ 8000

Solution

$$\text{20} = \left(\frac{500 - x}{x}\right) \times 100 \times 5$$

$$x = (500)(5) - 5x$$

$$6x = (500)(5)$$

$$x = \frac{(250)(5)}{3}$$

$$x = \frac{1250}{3}$$

$$x = 416.66$$

Ans (c) 420 |

(27)

(c) Chandra :-

$$20 = \left(\frac{x - 1500}{1500}\right) \times 100$$

$$(20 \times 15) = x - 1500$$

$$300 = x - 1500$$

$$\boxed{x_1 = 1800}$$

$$10 = \left(\frac{1500 - x}{1500}\right) \times 100$$

$$150 = 1500 - x$$

$$+1350 = +x$$

$$\boxed{x_2 = 1350}$$

$$x_1 + x_2 = 1350 + 1800$$

$$\Rightarrow 3150$$

Profit $\Rightarrow 150$

$$\Rightarrow \frac{150}{3000} \times 100$$

$$= 5$$

∴ Ans (b) 5% profit

Date :
P. No. :

(25)

$$12 = \frac{(x - 1250)}{x} \times 100$$

$$12x = 100x - 1250$$

$$-88x = -1250 \times 100$$

$$x = \frac{1250 \times 100}{88}$$

$$x = \frac{625}{11} \quad \frac{25}{11}$$

$$\begin{array}{r} 08 \overline{)\,12.5000\,(1} \\ \cdots \end{array}$$

$$x = \frac{625 \times 25}{11}$$

$$\begin{array}{r} 625 \\ \times\ 25 \\ \hline 15625 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 6 \\ 11 \\ \hline 11 \\ 6 \end{array}$$

$$x = 1420.4$$

Ans (b) ≈ 1400

100 क्रय मूल्य

1 unit

1/2 unit price 50

$\Rightarrow \frac{100-50}{50} \times 100$

$\Rightarrow$ 100%

Ans $\Rightarrow$ (a) 100%

(27)

Solution =>

$$(x)\left(\frac{x \times 20}{100}\right)$$

$$x + 0.2x =$$

$$1.2x$$

(28)

cost sell price 20% than cost price

$SP = x - 0.2x \Rightarrow 0.8x$

~~sell~~ SP = $0.8x$

10

~~50~~ = $\frac{5}{100} \times \frac{(0.05)}{100} \times 0.8$

1000 = $\frac{0.8}{10}$

$\frac{10000}{8} = x$

$x = ₹1250$

Loss = cost price − sell pri. − sell com

$\Rightarrow 1250 - 0.8(1250) - 50$

$1250 - 1000 - 50$

$\Rightarrow 200$

Ans (b) 200

(29) ~~selling price = ₹500~~

total quantity x

Sell ~~Suppose~~ Quantity x

Sell ₹12 20% loss

Sell ₹12 50% profit

1ϕ ~~20~~ $= \frac{\text{loss}}{x12 \text{ ~~purchase~~}} \times 10\phi \Rightarrow x = \frac{\text{loss} \times 10}{50}$

~~50~~ $= \frac{\text{~~4~~ profit}}{\text{~~purchase~~} 12x12} \times 10^2$ $x = \text{~~4 profit~~}$

$\frac{2}{5} = \frac{\text{loss}}{\text{profit}}$

$\Rightarrow \frac{\text{Profit}}{\text{Purchase}} \times 100$

$\Rightarrow \frac{\left(\frac{x}{4} - \frac{x}{10}\right)}{x} \times 100 \Rightarrow \frac{60}{4}$

$\Rightarrow \frac{10x - 4x}{40x} \times 100 \Rightarrow \frac{6x}{40x} \times 100$

Ans 15% Profit

(30)

Solution

Sell price ⇒ ₹ 50

Sell price = loss + 10% of sell price.

$50 = \text{loss} + 5\% \times \frac{10}{100}$

$45 = \text{loss}$

$\% \text{ loss} = \frac{45 \times 100}{6045}$

$\Rightarrow 7.5\%$.

Ans ⇒ (a) 7.5%.

Date :
P. No. :

(31)

solution ⇒

cost price of 2 such articles ⇒ x

1 ~~article~~ article ⇒ x/2

= sell of 1 article

1 article price ⇒ 2/2

∴ profit ⇒ $\frac{2/2 (x - 2/2)}{2/2} \times 100$

⇒ $\frac{2 \cancel{x/2}}{\cancel{x/2}} \times 100$

profit % ⇒ 200 %

Ans ⇒ (c) 200 %

(32)

solution ⇒ cost price ⇒ ?

Suppose initial price ⇒ x

profit ⇒ 500

$20\% \text{ of } x = \frac{500}{x} \times 100$

$x = \frac{500 \times 100}{20}$

$x = 2500$

$x = 2500$

sell ⇒ 3000

20% ⇒ initial price

⇒ $\frac{2500 \times 20}{100}$ ⇒ 500

⇒

cost price ⇒ 2500 - 500

selling ⇒ 3000

Profit ⇒ 3000 - 2000

⇒ 1000

Ans ⇒ (c) 1000

(39)

Solution

cost x — 25 ↑

sell y

↓ 10 ↓ ⇒ $25 = \frac{(y-x)}{x} \times 100$

cost price $x - \frac{10x}{100} \Rightarrow 0.9x$ ⇒ $\frac{1}{4} = \frac{y}{x} - 1$

$\frac{y}{x} = \frac{5}{4}$

Selling price ⇒ y

⇒

∴ Profit% ⇒ $\left(\frac{y - 0.9x}{0.9x}\right) \times 100$

$\Rightarrow \left(\frac{10}{9} \times \frac{y}{x} - 1\right) 100$

$\Rightarrow \left(\frac{10}{9} \times \frac{5}{4} - 1\right) \times 100$

$\Rightarrow \left(\frac{50}{36} - 1\right) \times 100$

$\Rightarrow \left(\frac{14}{18}\right) \times 100$

$\Rightarrow \frac{700}{18} \Rightarrow 38.8$

Ans-) (b) 38.8.1.

(34)

cost price x
sell price y

$$500 \Rightarrow \left(\frac{y-x}{x}\right) \times 100$$

$$5 = \frac{y}{x} - 1$$

$$\boxed{6 = \frac{y}{x}}$$

$\Rightarrow$ ↑ cost price $2x$
↓ sell price $y/2$

$$\Rightarrow \left(\frac{\frac{y}{2} - 2x}{2x}\right) \times 100$$

$$\Rightarrow \frac{y - 4x}{2 \times 2x}$$

$$\Rightarrow \left(\frac{y}{4x} - \frac{4x}{4x}\right) \times 100$$

$$\Rightarrow \left(\frac{6}{4} - 1\right) \times 100$$

$$\Rightarrow \left(\frac{2}{4}\right) \times 100 \Rightarrow 50.1.$$

Ans (b) 50.1%

(34) cost price ⇒ x
sell price ⇒ y
quantity

$$(xy) = \left(x + \frac{25x}{100}\right)(y - 4y)$$

$$1 = \left(\frac{125}{100}\right)(1 - 4)$$

$$100 = 125 - 125y$$

$$+25 = +125y \Rightarrow \frac{1}{5} = y$$

$$\Rightarrow \frac{1}{5} \times 100 \Rightarrow 20\%\ y$$

Ans (d) 20% decrease

(37)

2 artical cost price ⇒ $x \times 12$
1 artical profit of 15 artical sell ⇒ x
1 artical profit ⇒ $\frac{x}{15}$

$$\Rightarrow \frac{x/15}{x/2} \times 100$$

$$\Rightarrow \frac{x}{15} \times \frac{2}{x} \times 100 \Rightarrow \frac{200}{15} \Rightarrow \frac{40}{3}$$

$$\Rightarrow 13.33$$

Ans (c) 13.33%

(37)

40% of a = 50 of b

$\frac{40}{100} \times a = \frac{50}{100} \times b$

$\frac{a}{b} = \frac{5}{4}$

a : b = 1.25

Ans (a) 2 : 3 ~~closes~~ closest

(38)

marked price = x

discount rate ⇒ y

5 marked price = 5 × discount price

5x = 5y

sell ⇒ marked − discount price

⇒ x − y

⇒ 5y = y

sell ⇒ 4y

$\frac{\text{selling}}{\text{discount}} \Rightarrow \frac{4y}{y} \Rightarrow 4:1$

Ans ⇒ (c) 4 times the discount

~~40~~
39

x = 20% of 12% of 120 of 650

⇒ 20% of 12% of 120% of 650

20% of 12% $\left(\frac{625\cancel{0} \times 12\cancel{0}}{10\cancel{0}}\right)$

⇒ 20% $\left(\frac{12}{100} \times 625 \times 12\right)$

⇒ $\frac{2\cancel{0}}{10\cancel{0}} \times \frac{12}{100} \times 625 \times 12$

⇒ $\frac{24 \times 12 \times 625}{1000}$ ⇒ $\frac{\cancel{24} \times \cancel{7500}}{\cancel{1000}}$ (12, 15, 6, 3, 2)

⇒ 15 × 12 ⇒ 3

⇒ 180

Ans (d) 180

(40) cost price of article ⇒ ₹ 500

~~100~~ = $\frac{\text{Profit}}{500} \times \cancel{100}$

profit ⇒ ₹ 500

sell price = profit + cost price

⇒ 500 + 500

⇒ 1000

~~Since~~

35% discount is given,

~~the~~ selling price 65% of marked pm

selling price = 65% of marked price

$$1000 = \frac{65}{100} \times MP$$

$$\frac{1000 \times 100}{65} = \text{marked price}$$

1000×1.53848

1538.

Ans (a) 1539 rupees

(42)

$$a = b + a \times 25\%$$

$$\Rightarrow \quad A = 125$$
$$b = 100$$

$$\Rightarrow \frac{25}{100} \Rightarrow \frac{25^{1}}{125_{5}} \times 100 \Rightarrow 20\%$$

Ans ⇒ (b) 20%

(48) solution

cost price = x

discount price = 2x

cost price = sell price

marked price = sell price + discount

10,000 = x + 2x

10000 = 3x

x = 3333.33

Ans (b) 3333.33

(49) ~~cost price + = selling price +~~

Selling pr ⇒ x

cost pri ⇒ $x - \frac{x \times 30}{100}$

discount ⇒ 40% of selling price

marked price = selling price + discount

12 600 = $x + x \times \frac{40}{100}$

90 1260 = $\frac{140x}{100}$

9000 = x

cost pr ⇒ $\frac{70}{100} \times 9000$

⇒ 63 00

Ans (a) 6300

(44)

$a \times \left(\frac{100}{3}\right)\% - 20 = 16.66\% \times a$

$a\left(\frac{100}{3} - \frac{16.66 \times 100}{6}\right) = 20$

$\Rightarrow a\left(\frac{200-100}{6}\right) = 20$

$a\left(\frac{100}{6}\right) = 20$

$a = \frac{120}{100} \times \frac{120}{100} \times 100$

$a \Rightarrow 144$

Ans (C) 144

(45)

$\frac{a \times 20}{100} - 20 = \frac{20}{100} \times 20$

$a \times \frac{1}{5} - 20 = 4$

$\frac{a}{5} = 24$

$a = 120$

Ans (C) ~~150~~ 120

(47)

$x \rightarrow 2x \rightarrow \frac{12}{100}x \rightarrow \frac{35}{100}x \rightarrow \frac{35}{100}x$

$\Rightarrow \frac{\frac{35}{100}x}{x} \times 100$

$\Rightarrow 1700 \cdot 1 \cdot 3500$

Ans (d) 1750 l.

Ans (a) 3500 l.

(48)

$(235 - x) = \frac{234 \times 65}{100}$

$\frac{234 \times 100 - 234 \times 65}{100} = x$

$\left(\frac{234}{100}\right)(100 - 65) = x$

$\frac{234 \times 35}{100} = x$

$2 \cdot 34 \times 35 = x$

$70 + 4 \cdot 34 \times 35$

$70 + 11 \cdot 90$

$81 \cdot 9$

Ans 18.9

P. No. :

(48)

$$\frac{90}{100} \times \frac{900}{100} \times \frac{9006}{100} \times 9$$

$$\Rightarrow 81 \times 81$$

$$\Rightarrow \begin{array}{r} 81 \\ 81 \\ \hline 81 \\ 648\ \wedge \\ \hline 6561 \end{array}$$

Ans (d) 6561

(49)

(50) total expense $\Rightarrow 25x$

$\Rightarrow 25$

$\Rightarrow 13x + 12\left(x + \frac{x \times 24}{100}\right)$

$\Rightarrow 25x + \frac{288x}{100}$

$\Rightarrow \frac{2.88x \times 100}{25x}$ 2.88x

$\Rightarrow 4.52$

$\Rightarrow 12\left(\frac{124x}{100}\right)$

$\Rightarrow 14.88x$

$\Rightarrow \frac{16.12x \times 100}{25x}$

$\Rightarrow 40.48$ decrease

Ans (a) 40.48 decrease

Q5

cost price = 3500

$\Rightarrow \frac{3500 \times 15}{100}$

$\Rightarrow 525$

Ans (C) 525