Quiz Date: 4th July 2020

Q1. The profit on an article when it is sold for Rs. 720 is half of the loss when the same article is sold for Rs. 420. find the cost price of the article.
(a) Rs. 620
(b) Rs. 700
(c) Rs. 520
(d) Rs. 840
(e) Cannot be determined

Q2. A starts a business with a capital of Rs 1200. B and C join with some investments after 3 and 6 months, respectively. If at the end of a year, the profit is divided in the ratio 2 : 3 : 5 respectively, then what is difference between the investment of B and C in the business?
(a) Rs. 2400
(b) Rs. 1800
(c) Rs 3600
(d) Rs 6000
(e) Rs 3400

Q3. A, B and C entered in a business for one year, 8 months and 9 months respectively. A and C earn a profit of 10,000 and 20,000 from the total profit of 55000 after one year. If 'A' invest 1,50,000 initially then find the difference between investment of B and C.
(a) 162500
(b) 400000
(c) 250000
(d) can't be determined
(e) 190000

Q4. Investment of A is 40% more than investment of B. Ratio between time of investment of A and B is 2 : 3. If total investment of A and B is 6000 and profit of A obtained out of total profit is 16% less than his investment then find the difference between the profit earned by B and profit earned by A.
(a) 182
(b) 196
(c) 210
(d) 220
(e) 224

Q5. 'A' and 'B' started a business together. 'A' invested (P + 250) initially while 'B' invested '1.5P' initially. 'A' invested Rs. 1000 more after every 4 months while 'B' invested Rs. 500 more after every quarter. After an year 'A' got 46% of total profit then find the amount invested by 'B' in 3rd quarter?
(a) 3300
(b) 3800
(c) 4300
(d) 4800

(e) 5300

Q6. A, B and C entered into a partnership with some investment for one year. After one-year A got 2/5 profit and B and C got equal part of remaining profit. If total profit after one year is 15% instead of 10% then A got 900 Rs. more. Find the investment of B.
(a) 12000
(b) 45000
(c) 27000
(d) 18000
(e) 13500

Q7. P, Q and R enter into a partnership business. Q invested 25% more than P and R invested 20% more than Q. P invested only for starting eight months. After six months of starting the business, Q and R withdraw $\frac{1}{5}th$ and $33\frac{1}{3}\%$ of their investment. At the end of the year, 'P' gets 25% of total profit for managing business and remaining profit distributed among three according to their investments. If profit share of P is Rs. 1860 more than profit share of R, then find the profit share Q?
(a) 4840 Rs
(b) 4860 Rs.
(c) 4890 Rs.
(d) 4820 Rs.
(e) 4800 Rs.

Q8. A and B starts a business. B invests $85\frac{5}{7}\%$ of A. After 7 months A withdraws $\frac{3}{5}$th of B's Capital while B invests 20% more than his initial capital. If total profit at the end of the year is Rs 43200, then find the profit of A.
(a) Rs 19800
(b) Rs 23400
(c) Rs 21600
(d) Rs 18000
(e) Rs 25200

Q9. Shivam and Maanik started a business with and investment of Rs 18000 and Rs 21000. After T months, Ayush also joined them with investment of Rs 24000 and Shivam invests Rs

3000 more. If Shivam get 25% more profit than Ayush at the end of the year, then find the value of T.
(a) 4 months
(b) 6 months
(c) 8 months
(d) 5 months
(e) 7 months

Q10. A and B enter into a partnership with their respective capital of Rs 7500 and Rs 7800 for 2 years. B left the partnership '4 months' before completion of 2 years and they together earn Rs 14000 profit at end of 2 years out of which 12.5% was donated and remaining was distributed according to their investment and time. Find profit share of B?
(a) Rs 4225.50
(b) Rs 6562.50
(c) Rs 7525.50
(d) Rs 5687.50
(e) None of these

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

Q11. $3^3 \div 3^7 \times 27^2 \times 11.25 + 75\%$ of $45 = ?$
(a) 135
(b) 133
(c) 132
(d) 134
(e) 131

Q12. $3\frac{2}{7} + 4\frac{1}{14} - \frac{9}{14} = \frac{188}{?}$
(a) 14
(b) 28
(c) 35
(d) 7
(e) 24

Q13. $\sqrt{15 \times 22^2 - 40\% \, of \, 60^2 + 19 \times 39} = ?^2$
(a) 81
(b) 21
(c) 19
(d) 11
(e) 9

Q14. $40\% \, of \, ? + 55\% \, of \, 360 = 36\% \, of \, 450 + 10^2$
(a) 64
(b) 320
(c) 160

(d) 80
(e) 200

Q15. $\sqrt{144} \times \sqrt{324} \div 4\left(\frac{1}{3} \div 24\right) = \frac{(54)^2}{?}$
(a) 432
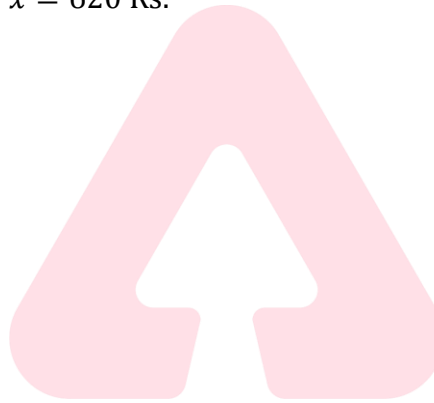(b) 0.75
(c) 243
(d) $\frac{3}{64}$
(e) 1.5

Solutions

S1. Ans. (a)
Sol. $2(720 - x) = (x - 420)$
$1440 - 2x = x - 420$
$3x = 1860$
$x = 620$ Rs.

S2. Ans (c)
Sol. Let B invests Rs x while C invests Rs y in business.
So, ratio profit share of A : B $= \frac{1200 \times 12}{x \times 9} = \frac{2}{3}$
$x = 2400$
And, ratio of profit share of B : C $= \frac{1200 \times 12}{y \times 6} = \frac{2}{5}$
$y = 6000$
So, required difference $= 6000 - 2400 = Rs\ 3600$

S3. Ans.(a)
Sol.
Investment of A's=Rs. 150000
Let B's, C's investment be y and z respectively
ATQ,
$\frac{150000 \times 12}{y \times 8} = \frac{10,000}{25,000}$
$\Rightarrow y = 562500$
And,

$$\frac{150000 \times 12}{z \times 9} = \frac{10,000}{20,000}$$

$\Rightarrow z = 400000$

Required difference = 162500

S4. Ans.(c)
Sol.
Let investment of B = x
$\Rightarrow$ investment of A = 1.4x
ATQ,
6000 = 1.4x + x
$\Rightarrow x = \frac{6000}{2.4} = 2500$
Investment of A = 1.4 × 2500 = 3500
Profit of 'A' $= 3500 \times \frac{84}{100} = 2940$
Ratio of profit of A and B = 3500 × 2 : 2500 × 3 = 14 : 15
Required difference $= \frac{2940}{14} \times 1 = 210$

S5. Ans.(c)
Sol.
Ratio of profit of A and B = 46 : (100 – 46)
= 46 : 54
= 23 : 27
$\frac{23}{27} = \frac{(P+250) \times 4 + (P+1250) \times 4 + (P+2250) \times 4}{1.5P \times 3 + (1.5P+500) \times 3 + (1.5P+1000) \times 3 + (1.5P+1500) \times 3}$
$\frac{23}{27} = \frac{12P + 1000 + 5000 + 9000}{18P + 1500 + 3000 + 4500}$
$\frac{23}{27} = \frac{12P + 15000}{18P + 9000}$
$\Rightarrow P = 2200$
Amount invested by B in 3rd quarter
= 1.5 × 2200 + 1000
= 3300 + 1000
= 4300

S6. Ans.(e)
Sol.
A got 40% of profit
B & C got 30% each
So investment ratio of A, B and C is 4 : 3 : 3
Now,
They earn 10% profit
$\Rightarrow \frac{10x \times 10}{100} = x$
If they earn 15% profit
$= \frac{10x \times 15}{100} = \frac{3}{2}x$
A got 900 Rs. more

$\Rightarrow \frac{3}{2} x \times \frac{40}{100} - \frac{x \times 40}{100} = 900$

$\Rightarrow$ x = 4500

Total investment = 45000

B's investment $= \frac{45000 \times 3}{10}$

$= 13500$

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S7.Ans (b)

Sol.

Let P invested = Rs. 100x

Q invested = Rs. 125x

R invested = Rs.150x

Ratio of investment of P, Q and R

$= (100x \times 8) : \left(125x \times 6 + 125x \times \frac{4}{5} \times 6\right) : \left(150x \times 6 + 150x \times \frac{2}{3} \times 6\right)$

= 16 : 27 : 30

Let total profit = Rs. 100P

ATQ –

$25P + 75P \times \frac{16}{73} - 75P \times \frac{30}{73} = 1860$

$\frac{3025P}{73} - \frac{2250P}{73} = 1860$

P = $1860 \times \frac{73}{775}$

P = 175.2

Total Profit = $100 \times 175.2 = 17520$

Q's share in profit = $17520 \times \frac{75}{100} \times \frac{27}{73}$

   = 4860 Rs.

S8. Ans (a)

Sol. Let capital of A be Rs 7x.

So, capital of B = $7x \times \frac{600}{700} = Rs\ 6x$

Ratio of profit of A and B = $7x \times 7 + \left(7x - 6x \times \frac{3}{5}\right) \times 5 : 6x \times 7 + \left(6x \times \frac{120}{100}\right) \times 5$

$= 49 + 17 : 42 + 36$

$= 11 : 13$

So, required profit $= \frac{43200}{24} \times 11 = Rs\ 19800$

S9. Ans (a)
Sol. Ratio of profit of Shivam, Maanik and Ayush =
$= 18000 \times T + 21000(12 - T) : 21000 \times 12 : 24000 \times (12 - T)$
$84 - T : 84 : 96 - 8T$
ATQ
$\frac{84-T}{96-8T} = \frac{5}{4}$
$T = 4\ months$

S10. Ans.(d)
Sol.
Ratio of their profit sharing =A   :   B
                    =7500×24   :   7800×20
                    =   15   :   13
Profit left after donation $= 14000 - 14000 \times \frac{12.5}{100}$
= 14000 – 1750
= 12250
B's share in profit $= \frac{13}{15+13} \times 12250$
$= \frac{13}{28} \times 12250$
= Rs 5687.50

S11. Ans.(a)
Sol.
$\Rightarrow \frac{3^3 \times 27^2}{3^7} \times 11.25 + 45 \times \frac{3}{4}$
$\Rightarrow \frac{3^6}{3^4} \times 11.25 + 33.75$
$\Rightarrow 135$

S12. Ans.(b)
Sol.
$3\frac{2}{7} + 4\frac{1}{14} - \frac{9}{14} = \frac{188}{?}$
$\frac{23}{7} + \frac{57}{14} - \frac{9}{14} = \frac{188}{?}$
$\frac{46+57-9}{14} = \frac{188}{?}$
$\frac{94}{14} = \frac{188}{?}$
$? = \frac{188}{94} \times 14 = 28$

S13. Ans.(e)
Sol.
$\sqrt{15 \times 22^2 - 40\% of 60^2 + 19 \times 39} = ?^2$
$\sqrt{15 \times 484 - 40\% \ of\ 3600 + 19 \times 39} = ?^2$
$\sqrt{7260 - 1440 + 741} = ?^2$

$\sqrt{6561} = ?^2$
$81 = ?^2$
$? = 9$

S14. Ans.(c)
Sol.
$40\% \text{ of } ? + 55\% \text{ of } 360 = 36\% \text{ of } 450 + 10^2$
$\frac{2}{5} \times ? + \frac{11}{20} \times 360 = \frac{36}{100} \times 450 + 100$
$\frac{2}{5} \times ? + 198 = 162 + 100$
$\frac{2}{5} \times ? = 262 - 198$
$\frac{2}{5} \times ? = 64$
$? = 160$

S15. Ans.(b)
Sol.
$\sqrt{144} \times \sqrt{324} \div 4 \left(\frac{1}{3} \div 24 \right) = \frac{(54)^2}{?}$
$12 \times 18 \div (4 \div 72) = \frac{(54)^2}{?}$
$? = \frac{54 \times 54 \times 4}{12 \times 18 \times 72} = \frac{3}{4} = 0.75$

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