

Quiz Date: 24th September 2020

Directions (1-5): What should come in place of question mark (?) in following simplification problems?

Q1. $2\frac{1}{3}$ of 630 - 50% of 240 = ?

- (a) 1270
- (b) 1350
- (c) 1430
- (d) 1500
- (e) 1400

Q2. $\sqrt[3]{729}$ of $\frac{4}{3}$ + $\sqrt{324} \div 6$ = ?

- (a) 22
- (b) 12
- (c) 18
- (d) 15
- (e) 28

Q3. $0.009 + 0.001 \div 10 + 0.003$ = ?

- (a) 0.0121
- (b) 0.00121
- (c) 0.121
- (d) 0.0123
- (e) 1.0123

Q4. 48% of 950 - 46% of 840 = ?

- (a) 75
- (b) 72
- (c) 65.6
- (d) 70.5
- (e) 69.6

Q5. $\frac{15}{33} \times \frac{165}{4} \times \frac{3}{5} \div \frac{3}{11}$ = ?

- (a) 42.15
- (b) 45.50
- (c) 41.25
- (d) 35.25
- (e) 25.15

Q6. The cost of 8 pens and 4 pencils is Rs. 176 and the cost of 2 pens and 2 pencils is Rs. 48. What is the cost of one pen?



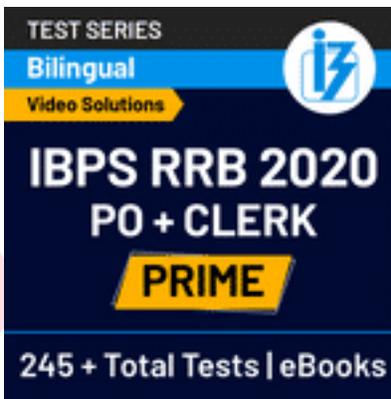
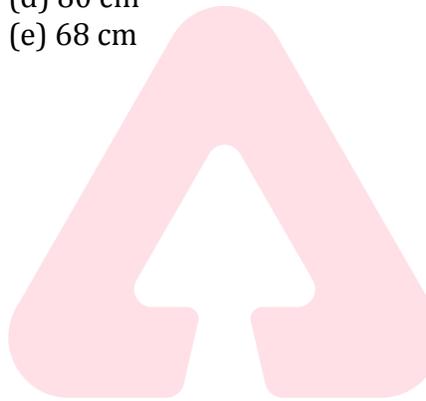
- (a) Rs. 16
- (b) Rs. 14
- (c) Rs. 12
- (d) Rs. 18
- (e) Rs. 20

Q7. In how many different ways can the letters of the word 'TOTAL' be arranged?

- (a) 120
- (b) 60
- (c) 48
- (d) 72
- (e) 84

Q8. If the area of a circle is 616 cm^2 , what is its perimeter?

- (a) 76 cm
- (b) 88 cm
- (c) 96 cm
- (d) 80 cm
- (e) 68 cm



Q9. There is a mixture of alcohol and water of 120 litre. The ratio of alcohol to water is 5 : 3. If 30% of mixture is taken out and same amount of water is added in the remaining mixture, then find the new ratio of alcohol and water in the mixture.

- (a) 7:3
- (b) 5:8
- (c) 7:9
- (d) 11:4
- (e) 4:7

Q10. The ratio of milk and water in mixture of 90 litre is 7 : 2. If some amount of mixture is replaced by water, then ratio of milk to water becomes 5 : 2. Find the quantity of water added to the mixture.

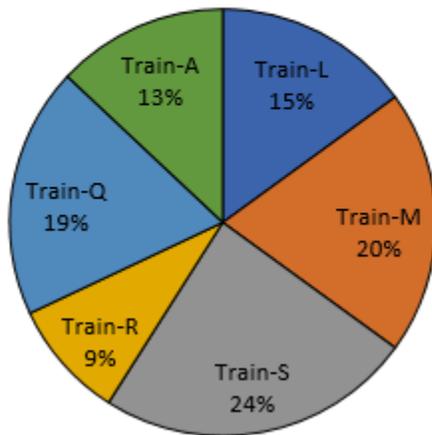
- (a) 6 litre
- (b) 8 litre

- (c) 12 litre
(d) $10\frac{17}{49}$ litre
(e) $7\frac{17}{49}$ litre

Directions (11-15): Study the following pie-chart carefully to answer these questions.

Total number of passengers = 8500

Percentage of Passengers



BANKERS

Q11. What was the average number of passengers in Train-S, Train-M, Train-A and Train-L together?

- (a) 1521
(b) 1641
(c) 1651
(d) 1530
(e) 1691

Q12. If in Train-R 34 percent of the passengers are females and 26 percent are transgender, what is the number of males in that train?

- (a) 306
(b) 316
(c) 308
(d) 318
(e) 324

Q13. The number of passengers in Train-Q is approximately what percentage of the total number of passengers in Train-A and Train-R?

- (a) 90
(b) 70
(c) 75

- (d) 80
(e) 86

Q14. Which train has the second highest number of passengers?

- (a) A
(b) Q
(c) S
(d) M
(e) L

Q15. Number of passengers in train M is approximately what percent more or less as compared to the number of passengers in Train-L?

- (a) 29
(b) 49
(c) 43
(d) 33
(e) 39

Solutions

S1. Ans.(b)

Sol.

$$\begin{aligned} ? &= \frac{7}{3} \times 630 - \frac{50}{100} \times 240 \\ &= 1470 - 120 \\ &= 1350 \end{aligned}$$

S2. Ans.(d)

Sol.

$$\begin{aligned} ? &= 9 \times \frac{4}{3} + \frac{18}{6} \\ ? &= 12 + 3 \\ ? &= 15 \end{aligned}$$

S3. Ans.(a)

Sol.

$$\begin{aligned} ? &= 0.009 + 0.0001 + 0.003 \\ ? &= 0.0121 \end{aligned}$$

S4. Ans.(e)

Sol.



$$\begin{aligned} ? &= \frac{48}{100} \times 950 - \frac{46}{100} \times 840 \\ &= 456 - 386.4 \\ &= 69.6 \end{aligned}$$

S5. Ans.(c)

Sol.

$$\begin{aligned} ? &= \frac{15}{33} \times \frac{165}{4} \times \frac{3}{5} \times \frac{11}{3} \\ &= \frac{165}{4} \\ &= 41.25 \end{aligned}$$



S6. Ans. (e)

Sol.

Let cost of one pen and one pencil are Rs. x and Rs. y respectively.

$$\therefore 8x + 4y = 176$$

$$\text{or } 2x + y = 44 \dots (i)$$

and

$$2x + 2y = 48$$

$$\text{or } x + y = 24 \dots (ii)$$

from (i) - (ii),

$$x = 20$$

S7. Ans.(b)

Sol.

$$\text{Required no. of arrangements} = \frac{5!}{2!} = 60$$

S8. Ans.(b)

Sol.

Area of circle = πr^2 , where r = radius of circle

$$\therefore \pi r^2 = 616$$

$$\Rightarrow \frac{22}{7} \times r^2 = 616$$

$$\Rightarrow r^2 = 196$$

$$\Rightarrow r = 14 \text{ cm}$$

$$\therefore \text{Perimeter} = 2 \times \frac{22}{7} \times 14 = 88 \text{ cm}$$

S9. Ans.(c)

Sol.

Quantity of mixture left after making change before adding water

$$= 120 \times \frac{70}{100}$$

$$= 84 \text{ li}$$

In this mixture quantity of alcohol

$$= \frac{5}{8} \times 84$$

$$= 52.5 \text{ li}$$

And quantity of water = $84 - 52.5 = 31.5 \text{ li}$

Now, after adding water to the mixture,

$$\text{Net quantity of water} = 31.5 + 30 \times \frac{120}{100} = 67.5 \text{ li}$$

$$\therefore \text{Required ratio} = \frac{52.5}{67.5} = \frac{7}{9}$$

S10. Ans.(e)

Sol.

Let $x \text{ li}$ of water is added to the mixture.

$$\text{Initial quantity of milk} = \frac{7}{9} \times 90 = 70 \text{ li}$$

and that of water = $90 - 70 = 20 \text{ li}$

$$\text{ATQ, } 70 - \frac{7}{9}x = \frac{5}{7} \times 90$$

$$\text{or, } \frac{630 - 7x}{9} = \frac{450}{7}$$

$$\text{or, } x = \frac{360}{49} = 7 \frac{17}{49} \text{ lt.}$$

S11. Ans.(d)



Sol.

Required average no.

$$\begin{aligned} &= \frac{1}{4} \times (24 + 20 + 15 + 13) \times 85 \\ &= \frac{1}{4} \times 72 \times 85 \\ &= 1530 \end{aligned}$$

S12. Ans.(a)

Sol.

$$\begin{aligned} \text{No. of males in train - R} &= 9 \times 85 - \frac{60}{100} \times 9 \times 85 \\ &= \frac{40}{100} \times 9 \times 85 \\ &= 306 \end{aligned}$$

S13. Ans.(e)

Sol.

$$\begin{aligned} \text{Required percentage} &= \frac{19}{13 + 9} \times 100 \\ &\simeq 86\% \end{aligned}$$

S14. Ans.(d)

Sol.

Train-M

S15. Ans.(d)

Sol.

$$\begin{aligned} \text{Required percentage} &= \frac{20 - 15}{15} \times 100 \\ &= 33.33\% \\ &\simeq 33\% \end{aligned}$$

