

Quiz Date: 3<sup>rd</sup> October 2020

**Directions (1-5) :** What approximate value should come in the place of the question mark '?' in the following questions ? (You are not expected to calculate the exact value.)

Q1.  $\sqrt{15.9987} \times 1598.998 \div 3198.0125 + \sqrt{2208.997} = ?^2$

- (a) 1526
- (b) 17
- (c) 7
- (d) 11
- (e) 8

Q2.  $37.992 \times \sqrt{143.956} \div (2.001)^7 \times \sqrt{4095.998} \div 56.998 = ?$

- (a) 12
- (b) 8
- (c) 10
- (d) 11
- (e) 4

Q3.  $34.001 \times 17.997 \times 23.995 \div 16.999 = ?$

- (a) 864
- (b) 756
- (c) 625
- (d) 522
- (e) 976

Q4.  $0.2\% \text{ of } 329.995 + 1\% \text{ of } 169.995 - 0.4\% \text{ of } 419.995 = ?$

- (a) 0.1
- (b) 0.4
- (c) 1.8
- (d) 0.68
- (e) 1.3

Q5.  $16.66\% \text{ of } 108.123 + 7.69\% \text{ of } 168.998 - 5.88\% \text{ of } 173.4 = ?$

- (a) 28.4
- (b) 20.8
- (c) 37.2
- (d) 26.6
- (e) 32.2

Q6. The perimeter of square is 3 times the perimeter of rectangle whose length and breadth are 12cm and 8 cm respectively. Find out the total surface area of sphere whose diameter is 2 times of the side of square.

- (a)  $3000\pi \text{ cm}^2$
- (b)  $2300\pi \text{ cm}^2$
- (c)  $3300\pi \text{ cm}^2$

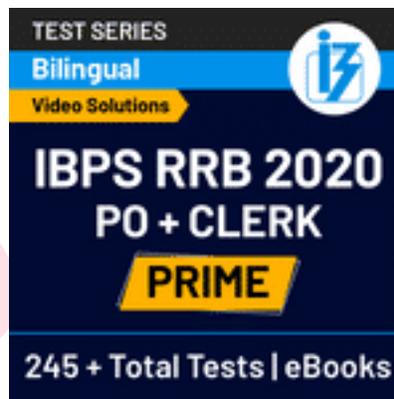
- (d)  $3600\pi \text{ cm}^2$   
(e)  $4300\pi \text{ cm}^2$

Q7. A container contains two liquid A and B in the ratio 3:5 when 40 liters of mixture are replaced with B, the ratio of A:B becomes 18:35. find out the initial quantity of mixture.

- (a) 424 liters  
(b) 444 liters  
(c) 520 liters  
(d) 384 liters  
(e) 414 liters

Q8. When the annual rate of compound interest increases from 7.5% to 12.5%, then a man's yearly interest increase by Rs 1750. Find out the simple interest on same principal at 5% per annum for 3 years?

- (a) Rs. 4850  
(b) Rs. 5250  
(c) Rs. 4320  
(d) Rs. 6520  
(e) Rs. 5150



Q9. If A, B and C started a business in a partnership investing in the ratio of 3:5:7 respectively. At the end of the year, they earned total profit of Rs. 23550. which is 15% of the total investment. Find out the investment of B's share (approximately in Rs.)?

- (a) Rs. 53860  
(b) Rs. 51333  
(c) Rs. 51003  
(d) Rs. 53454  
(e) Rs. 52334

Q10. There are three number A, B and C. If A is three times more than B and 8 times of C. if average of A, B and C is Rs. 770, then find out the difference between 2<sup>nd</sup> largest number and smallest number.

- (a) 200  
(b) 420  
(c) 210  
(d) 1470

(e) 110

**Directions (11-15):** - Deepak, Dharam and Shivam invested in partnership for one year. Ratio of investment of Deepak, Dharam and Shivam for first 6 months, next four month and for remaining time is 3:2:3, 2:5:3 and 4:3:3 respectively. Amount invested by Deepak in first 6 months, Dharam in next four month and by Shivam in remaining time is Rs.1500, Rs. 2000 and Rs. 900 respectively. Total difference between profit share of Dharam and Shivam together and Deepak and Dharam together is Rs. 450.

Q11. Total investment of Deepak is approximately what percent of total investment of Shivam in one year?

- (a) 96%
- (b) 95%
- (c) 97%
- (d) 92%
- (e) 99%

Q12. What is profit share of Dharam after one year?

- (a) Rs.7110
- (b) Rs. 6570
- (c) Rs. 7020
- (d) Rs. 6560
- (e) Rs. 7220

Q13. What is the ratio of investment made by Deepak for 4 months to investment made by Shivam for 2 months?

- (a) 5:7
- (b) 6:7
- (c) 4:5
- (d) 8:9
- (e) 3:2

Q14. What is the difference between investment made by Dharam for 6 and 4 months together and total investment made by Shivam?

- (a) Rs. 900
- (b) Rs. 600
- (c) Rs. 800
- (d) Rs. 400
- (e) Rs. 500

Q15. Investment made by Deepak for 2 months is how much percent more or less than investment made by Shivam for 6 months?

- (a) 20% more
- (b) 25% less
- (c) 25% more
- (d) 20% less

(e) None of these.

### Solutions

S1. Ans (c)

$$\begin{aligned} \text{Sol. } & \sqrt{15.9987} \times 1598.998 \div 3198.0125 + \sqrt{2208.997} \\ & = 4 \times \frac{1599}{3198} + 47 \\ ?^2 & = 49 \\ ? & = \pm 7 \\ \text{So, } ? & = 7 \end{aligned}$$

S2. Ans (e)

$$\begin{aligned} \text{Sol. } & 37.992 \times \sqrt{143.956} \div 2.0017 \times \sqrt{4095.998} \div 56.998 \\ & = 38 \times 12 \div 128 \times 64 \div 57 \\ & = 38 \times \frac{12}{128} \times \frac{64}{57} \\ & = 4 \end{aligned}$$

S3. Ans (a)

$$\begin{aligned} \text{Sol. } & 34.001 \times 17.997 \times 23.995 \div 16.999 \\ & = 34 \times 18 \times 24 \div 17 \\ & = \frac{34 \times 18 \times 24}{17} \\ & = 864 \end{aligned}$$

S4. Ans (d)

$$\begin{aligned} \text{Sol. } & 0.2\% \text{ of } 329.995 + 1\% \text{ of } 169.995 - 0.4\% \text{ of } 419.995 \\ & = \frac{2}{1000} \times 330 + \frac{1}{100} \times 170 - \frac{4}{1000} \times 420 \\ & = 0.66 + 1.70 - 1.68 \\ & = 0.68 \end{aligned}$$

S5. Ans (b)

$$\begin{aligned} \text{Sol. } & 16.66\% \text{ of } 108.123 + 7.69\% \text{ of } 168.998 - 5.88\% \text{ of } 173.4 \\ & = \frac{1}{6} \times 108 + \frac{1}{13} \times 169 - \frac{1}{17} \times 173.4 \\ & = 20.8 \end{aligned}$$

S6. Ans (d)

Sol.

Let side of square = a cm

ATQ

$$4a = 3 \times (l + b)$$

$$4a = 3 \times 2(12 + 8)$$

$$a = 30 \text{ cm}$$

since diameter of sphere is 2 times the side of square  
 so, radius of sphere (r) = side of square = 30 cm  
 total surface area of sphere =  $4\pi r^2$   
 $= 3600\pi \text{ cm}^2$

S7. Ans (a)

Sol.

The ratio of A and B in mixture = 3:5

After drawn out 40 liters of mixture their ratio must be same = 3:5

Let the quantity of liquid A in the mixture = 3a

And the quantity of liquid B in the mixture = 5a

ATQ

$$\frac{3a}{5a+40} = \frac{18}{35}$$

$$a = 48$$

quantity of mixture after drawn out 40 liters of mixture =  $3a + 5a = 8a$

$$= 8 \times 48$$

$$= 384 \text{ liters}$$

So, initial quantity =  $384 + 40 = 424$  liters.

S8 Ans (b)

Sol.

for 1<sup>st</sup> year simple interest and compound interest will be same.

$$\text{So, } 1750 = \frac{p \times (12.5 - 7.5) \times 1}{100}$$

$$P = \text{Rs. } 35000$$

$$\text{Simple interest} = \frac{35000 \times 5 \times 3}{100}$$

$$= \text{Rs. } 5250$$



S9. Ans (e)

Sol.

Let the share of A, B and C are 3a, 5a and 7a respectively.

The ratio of profit divided into A, B and C in the ratio =  $3a \times 12 : 5a \times 12 : 7a \times 12$   
 $= 3a : 5a : 7a$

Let total investment = P

ATQ

$$p \times \frac{15}{100} = 23550$$

$$P = \text{Rs. } 157000$$

$$\begin{aligned} \text{So, share of B} &= \frac{5}{3+5+7} \times 157000 \\ &= \text{Rs. } 52333.33 \approx \text{Rs. } 52334 \end{aligned}$$

S10. Ans (c)

Sol.

A is three times more than B

So, ratio of A and B = 4:1

And ratio of A and C = 8:1

So, A:B:C = 8:2:1

Let A = 8a, B = 2a and C = a

$$\begin{aligned} \text{Average of A, B and C} &= \frac{8a+2a+a}{3} = 770 \\ a &= 210 \end{aligned}$$

second largest number = 2a

and smallest number = a

difference between 2<sup>nd</sup> largest number and smallest number = 2a - a

$$= a$$

$$= 210$$

Sol (11-15): - Investment of Deepak for first 6 months = Rs. 1500

Investment of Dharam for first 6 months =  $1500 \times \frac{2}{3} = \text{Rs. } 1000$

Investment of Shivam for first 6 months =  $1500 \times \frac{3}{3} = \text{Rs. } 1500$

Investment of Dharam for next 4 months = Rs. 2000

Investment of Deepak for next 4 months =  $2000 \times \frac{2}{5} = \text{Rs. } 800$

Investment of Shivam for next 4 months =  $2000 \times \frac{3}{5} = \text{Rs. } 1200$

Investment of Shivam for remaining time = Rs. 900

Investment of Deepak for remaining time =  $900 \times \frac{4}{3} = \text{Rs. } 1200$

Investment of Dharam for remaining time =  $900 \times \frac{3}{3} = \text{Rs. } 900$

Profit share of Deepak, Dharam and Shivam

$$(1500 \times 6 + 800 \times 4 + 1200 \times 2) : (1000 \times 6 + 2000 \times 4 + 900 \times 2) : (1500 \times 6 + 1200 \times 4 + 900 \times 2)$$

$$\Rightarrow 73 : 79 : 78$$

Let profit of Deepak, Dharam and Shivam are Rs. 73x, Rs. 79x and Rs. 79x respectively.

ATQ

$$(79x + 78x - 79x - 73x) = 5x = \text{Rs. } 450$$

$$x = 90$$

Profit share of Deepak = Rs. 6570

Profit share of Dharam = Rs. 7110

Profit share of Shivam = Rs. 7020

S11. Ans(c)

Sol. Total investment of Deepak =  $(1500 + 800 + 1200) = \text{Rs. } 3500$

Total investment of Shivam =  $(1500 + 1200 + 900) = \text{Rs. } 3600$

Required percentage =  $\frac{3500}{3600} \times 100 \approx 97\%$

S12. Ans(a)

Sol. profit of Dharam after one year =  $79 \times 90 = \text{Rs. } 7110$

S13. Ans(d)

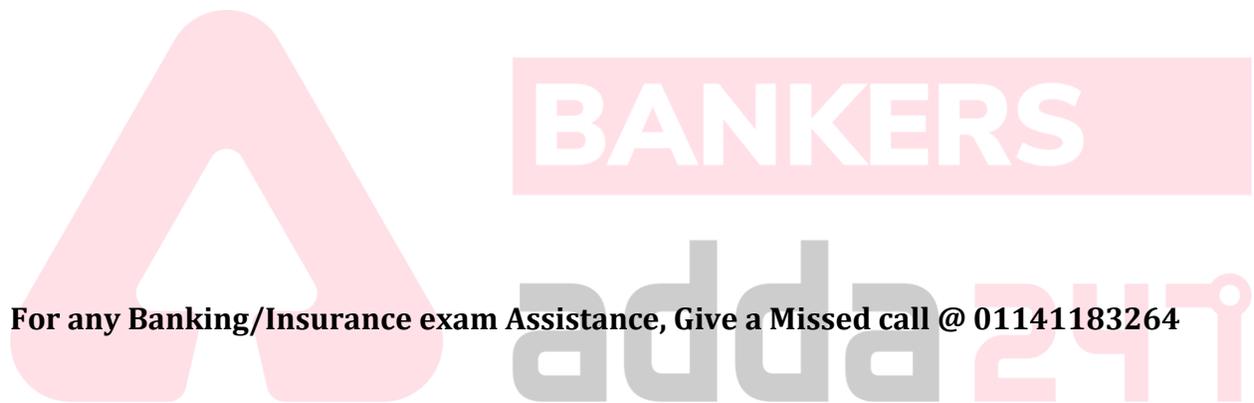
Sol. required ratio = 800: 900  
= 8:9

S14. Ans(b)

Sol. required difference =  $(1500 + 1200 + 900) - (1000 + 2000) = \text{Rs. } 600$

S15. Ans(d)

Sol. Required percentage =  $\frac{1500-1200}{1500} \times 100 = 20\% \text{ less}$



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