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Date Interpretation Table Chart Questions for IBPS PO Pre, SBI PO Pre, IBPS Clerk Mains, SBI Clerk Mains, IBPS SO Pre and RRB Scale I Pre Exams.

Word Problems Quiz 7

Direction: Study the following questions carefully and choose the right answer.

1. If the difference between the compound interest (compounded annually) and the simple interest accrued in one and a half years at 8% per annum is Rs. 80. What is the simple interest in three years on the same amount and at the same rate of interest?

- A. Rs. 6400 B. Rs. 7200 C. Rs. 5600 D. Rs. 4800 E. None of these

2. 4 Men can complete a piece of work in 58 days. They started the work together but at the end of every 5th day one man leaves the work and in the place of the man, one woman joins the work and the women continue doing the work and finish it despite all the men left in the mid of the work. Find the total number of days they take to complete the work in this manner if the efficiency of one women is 25% of the efficiency of one man.

- A. 174.5 days B. 194.5 days C. 116 days D. 174 days E. None of these

3. In a maths test, Anil got 414 marks which was 47 less than Barun's marks. The marks of Chandan were 48% of the sum of Anil and Barun's marks together or 52.5% of the total marks. If the marks of Dinesh was 32 more than that of Chandan's marks. Find how much percent did Dinesh get in that examination?

- A. 55.5% B. 54.5% C. 51.5% D. 48.5% E. None of these

4. The respective ratio of the present age of grandfather, father, mother and son is 25 : 14 : 11 : 6. Before 9 years, the ratio of the age of Grandfather and son was 13 : 3 respectively. What will be the average of the age of father and mother after 9 years?

- A. 75 years B. 350 years C. 375 years D. 384 years E. None of these

5. If the length of a rectangle is increased by 25% and the breadth is reduced by 33.33% then what will be the effect on its diagonal(approximately)?

- A. 7.6% B. 8.33% C. 6% D. 7.33% E. No change

6. If the ratio of the speed of a boat in upstream and the speed of the stream is 8 : 1. If the boat can travel 500 km downstream in 20 hours then find the total distance travelled by the boat in still water in the same time?

- A. 425 km B. 459 km C. 441 km D. 450 km E. None of these

7. There are 200 balls (numbered 1 to 200) in a box. Find the probability of choosing a ball which bears either perfect cube or perfect square and the unit digit is either multiple of 3 or multiple of 2?

- A. $\frac{11}{200}$ B. $\frac{3}{50}$ C. $\frac{17}{200}$ D. $\frac{13}{200}$ E. None of these

8. Mr. Tevatia buys goods at Himachal Pradesh at a discount of 20% on marked price. He has to pay certain kind of duties of 15% on the net cost he paid for goods bought. He marked a new price and earned a profit of 40% over his total expenses. What is the percentage change in the marked price?

- A. 32.20% B. 28.80% C. 30% D. 26.75% E. None of these

9. P, Q and R started a business by investing Rs.900, Rs.1300 and Rs.2000 respectively. After two years they invested another amounts in the ratio 3 : 1 : 5. After another 1 year, P, Q and R withdrew Rs.200, Rs.400 and Rs.1000 from the business respectively. Now the profit earned from the business after 4 years from the start of the business is in the ratio of 4 : 5 : a and share of P in the profit is Rs.1200. Find the total profit earned from the business.

- A. Rs. 4100 B. Rs. 5100 C. Rs. 4800 D. Rs. 5400 E. None of these

10. Two trucks 'X' and 'Z' were moving towards each other which were 490 km away initially. If the ratio of the speed of the trucks 'X' and 'Z' was 4 : 3 and the speed of the truck 'Z' was 60 km/h, what time will it take for the two trucks to meet each other?

- A. 210 min. B. 240 min. C. 180 min. D. 270 min. E. 225 min.

Correct Answers:

1	2	3	4	5	6	7	8	9	10
E	B	E	D	A	D	A	B	B	A

Explanations:

1. Then CI of one and a half year

$$= \left[P \left(1 + \frac{8}{100} \right)^1 \left(1 + \frac{8}{2 \times 100} \right)^1 - P \right] \dots \dots \dots (i)$$

SI of one and a half year

$$= P \times 3 \times \frac{8}{2 \times 100} \dots \dots \dots (ii)$$

According to the question,

$$CI - SI = 80$$

$$\text{Equation (i)} - \text{equation (ii)} = 80$$

By solving, $P = 25000$

Time = 3 years and Rate of interest = 8% per annum

$$\text{Therefore SI} = 25000 \times 3 \times \frac{8}{100} = \text{Rs. } 6000$$

Alternate method: CI of one and a half year

$$= 8 + 4 + 8 \times \frac{4}{100} = 12.32\%$$

SI of one and a half year = $8 + 4 = 12\%$

According to the question, $(12.32 - 12)\% = 80$

$$1\% = 250$$

SI of 3 years = $8 \times 4 = 24\% = 250 \times 24 = \text{Rs. } 6000$

Hence, option E is correct.

2. Total work = $4 \times 58 = 232$ units (let the efficiency of one man is 1 unit)

Total work was done in the first 5 days

$$= 5 \times 4 = 20 \text{ units} = \frac{80}{4} \text{ units}$$

Now 3 men and one woman will work in the next five days = efficiency of $3m + 1w$

$$= 3 + \frac{1}{4} = \frac{13}{4}$$

Total work was done in the second 5 days

$$= 13 \times \frac{5}{4} = \frac{65}{4} \text{ units}$$

Total work was done in the third 5 days = $2m + 2w$

$$= 2 + \frac{1}{2} = 5 \times \frac{5}{2} = \frac{25}{2} = \frac{50}{4} \text{ units}$$

Total work was done in the fourth 5 days = $1m + 3w$

$$= 1 + \frac{3}{4} = \frac{7}{4} = 7 \times \frac{5}{4} = \frac{35}{4} \text{ units}$$

After the fourth, 5 days only women will work therefore the total units of work done in the first four, five days = 20 days

$$= \frac{80}{4} + \frac{65}{4} + \frac{50}{4} + \frac{35}{4} = \frac{230}{4} \text{ units}$$

$$\text{Remaining work} = 232 - \frac{230}{4} = \frac{698}{4} = 174.5 \text{ units}$$

$$\text{Efficiency of 4 women} = 1 \times \frac{4}{4} = 1 \text{ unit}$$

The number of days taken by 4 women to do 174.5 units = 174.5 days

Total number of days = $174.5 + 20 = 194.5$ days

Hence, option B is correct.

3. Barun's marks = $414 + 47 = 461$

The sum of Anil's and Barun's marks = $414 + 461 = 875$

Chandan Marks = 48% of 875 = 420 = 52.5% of the total marks = 52.5% of x (let the total marks is x)

By solving, x = total marks = 800

Dinesh's marks = $420 + 32 = 452$

$$\text{Reqd. \%} = \frac{452 \times 100}{800} = 56.5\%$$

Hence, option E is correct.

4. The respective ratio of the present age of grandfather, father, mother and son is 25 : 14 : 11 : 6

The ratio of the present age of grandfather and son = 25 : 6

Let us assume it $25x$ and $6x$

According to the question,

$$\frac{25x - 9}{6x - 9} = \frac{13}{3}$$

By solving, $x = 30$

The age of father + mother = $14x + 11x = 25x = 25 \times 30 = 750$

After 9 years, the sum of their age = $750 + 18 = 768$ years

$$\text{Average} = \frac{768}{2} = 384 \text{ years}$$

Hence, option D is correct.

5. Let the length of the rectangle = 4 units

And breadth of the rectangle = 3 units

Then diagonal of the rectangle = $\sqrt{4^2 + 3^2} = 5$ units

According to the question, the length of a rectangle is increased by 25% and the breadth is reduced by 33.33%

New length = 125% of 4 units = 5 units

New breadth = 66.66% of 3 units = 2 units

In the new rectangle, New diagonal = $\sqrt{5^2 + 2^2} = \sqrt{29} =$ approximately 5.38 units

Change = $(5.38 - 5) \times \frac{100}{5} = 7.6\%$

Hence, option A is correct.

6. Let the speed of boat in upstream = $8x$ km/hr

And the speed of the stream = x km/hr

Speed of boat in downstream = $\frac{500}{20} = 25$ km/hr

Let the speed of boat in still water = p km/hr

Then, $p + x = 25$ km/hr(i)

$P - x = 8x$, $p = 9x$ (ii)

Put the value of p in the equation (i)

$10x = 25$, $x = 2.5$

From the equation (ii) speed of boat in still water = $9x = 9 \times 2.5 = 22.5$ km/hr

The total distance travelled by the boat in still water in 20 hours = 450 km

Hence, option D is correct.

7. The balls which bears either perfect cube or perfect square = 1, 4, 8, 9, 16, 25, 27, 36, 49, 64, 81, 100, 121, 125, 144, 169, 196

The total number of balls in which the unit digit is either multiple of 3 or multiple of 2 = 4, 8, 9, 16, 36, 49, 64, 100, 144, 169, 196 = 11

So the required probability = $\frac{11}{200}$

Hence, option A is correct.

8. Let the marked price at Himachal Pradesh be Rs. 100.

\therefore Cost price = $100 - 20\%$ of 100 = Rs. 80.

He has to pay duties, then marked price = $80 + 15\%$ of 80 = Rs. 92.

Mr. Tevatia earned 40% on Rs. 92, thus new marked price = 140% of 92 = Rs. 128.80

Thus, percentage change in marked price = 28.80%

Hence, option B is correct.

9. Let after 2 years amount invested by P, Q and R is '3x', 'x' and '5x' respectively.

$$\text{Ratio of share of P and Q} = [(900 \times 2) + (900 + 3x) + (900 + 3x - 200)] : [(1300 \times 2) + (1300 + x) + (1300 + x - 400)] = 4 : 5$$

$$\Rightarrow 17000 + 30x = 19200 + 8x$$

$$\Rightarrow x = 100$$

$$\text{Ratio of share of P and R} = [(900 \times 2) + (900 + 3x) + (900 + 3x - 200)] : [(2000 \times 2) + (2000 + 5x) + (2000 + 5x - 1000)] = 4 : a$$

$$\Rightarrow a = 4 \times \frac{7000 + 10x}{3400 + 6x}$$

$$\Rightarrow a = 8$$

Total profit earned from the business

$$= 1200 \times \frac{4 + 5 + 8}{4} = \text{Rs. } 5100$$

Hence, option (B) is correct.

10. Given, two trucks 'X' and 'Z' were moving towards each other which were 490 km away initially.

The ratio of the speed of the trucks 'X' and 'Z' was respectively 4: 3 and the speed of the truck 'Z' was 60 km/h.

$$\text{So, the speed of truck 'X'} = 60 \times \frac{4}{3} = 80 \text{ km/h.}$$

As, the both trucks were moving towards each other, the relative speed will be = (80 + 60) km/h = 140 km/hr.

$$\therefore \text{The two trucks meet each other in} = \frac{490}{140} = 3.5 \text{ hours} = 210 \text{ minutes.}$$

Hence, option A is correct.



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