Math Questions for Bank Exams (SBI Clerk, IBPS Clerk, SBI PO Pre, IBPS PO Pre, IBPS SO Pre, & RRB Scale I Pre)

DI Line Chart Quiz No. 1

Directions: What value should come in place of question mark?

1. Shyam and Ram entered into a partnership with investment in the ratio 3 : 2 respectively. Among them, Ram is the working partner for which he gets 10% of the profit and Shyam is the sleeping partner. If at the end of one year they earned a profit of Rs. 75000 out of which 5% goes to the charity. Find the share of Ram in the profit.

A. Rs. 32000 B. Rs. 33000 C. Rs. 31000 D. Rs. 35000 E. None of these

2. The average height of 3 boys Bikesh, Sam and Suhas is 208/3 inches while the average height of Bikesh, Vihal and Rakesh is 203/3 inches. What is the average height of Bikesh, Sam, Suhas, Vihal and Rakesh?

A. 65 inches B. 66 inches C. (197/3) inches D. 64 inches E. Can't be determined

3. The speed of current is 5 km/h. What will be the respective downstream speed and upstream speed of a boy rowing a boat, if one third of the distance covered going downstream in a certain time is equal to the distance covered going upstream in the same time.

A. 15 kmph, 5 kmph B. 20 kmph, 10kmph C. 18 kmph, 8 kmph

D. 24 kmph, 14 kmph E. None of these

4. Ankur, Bhanu and Chatur can finish an assignment in their company together in 20 days. They started the assignment together and Ankur left it after first 6 days. After next 4 days, Bhanu also left the assignment. Then Chatur completed the remaining three fifth of the

assignment in 72 days. How many days would Bhanu alone take to finish the whole assignment?

A. 15 days B. 30 days C. 45 days D. 60 days E. None of these

5. Rajeev's present age is 100/3 % of his father's age and his father's age is half of Rajeev's grandfather's age. The average of the present ages of all of them is 110/3 years. What was the ratio of their ages 10 years ago?

A. 1 : 43 : 56 B. 1 : 23 : 56 C. 1 : 23 : 46 D. 1 : 26 : 56 E. None of these

6. An alloy of aluminium, copper and Iron contains 85% aluminium, 8% copper and 7% iron. A second alloy of aluminium and iron melted with the first and the mixture then contains 75% aluminium, 5% copper and 20% iron. Find the percentage of aluminium in the second alloy.

A. 49.4% B. 58.33% C. 53.75% D. 62.6% E. None of these

7. A company hired some trainee employees, the ratio of number of female to male is 2 : 3 and all of them have appeared in an employment test. In the employment test 35% of female and 40% of male had passed. Each female scored 280 marks and each male scored 320 marks. If the number of passed female is 50 less than the number of passed male. Then what is the total number of marks scored by passed male and female together?

A. 58000 B. 56000 C. 57000 D. 56500 E. 54850

8. A, B and C start running around a circular field having circumference 150 metre at the same time from the same point. Speeds of A, B and C are 2 m/minute, 2.5 m/minute and 3 m/minute.

Find after how much time, they will meet again at the same point for the first time.

A. 9 hours B. 7 hours C. 6 hours D. 5 hours E. None of these

9. If the letters of the word PREVIOUS be arranged at random, what is the probability that all the vowels come together?

A. 1/8 B. 7/8 C. 1/14 D. 1/2 E. 1/16

10. If a person lends a certain amount at an interest, compounded annually, for 2 years at a rate of 20% p.a. instead of 25% p.a., then the interest payable will be less by:

A. 24% B. 12.25% C. 19.25% D. 4.7% E. 21.77%

Correct Answers:

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

***Explanations*:**

1.

Amount goes to charity = 5 /100× 75000

= Rs. 3750

Amount goes to Ram as a working partner

= 10/100 × 75000 = Rs. 7500

Remaining amount = Rs. (75000 – 3750 – 7500) = Rs. 63750

Share of Ram in the remaining profit = 2/5 × 63750 = Rs. 25500

Total share of Ram = Rs. (7500 + 25500) = Rs. 33000

Hence, option B is correct.

2.

Height of 3 boys Bikesh, Sam and Suhas is

208/3 × 3 = 208 inches.

Height of Bikesh, Vihal and Rakesh is

203/3 × 3 = 203 inches.

With the help of this information, the height of 5 boys cannot be determined.

Hence, option (E) is correct.

3.

Let the speed of boy in still water be X km/h

And the speed of current is given = 5 km/h

Downstream speed = (X + 5) km/h

Upstream speed = (X – 5) km/h

Let time be ‘t’ hours.

⇒ [(X + 5)t]/3 = (X – 5)t

⇒ X + 5 = 3X – 15

⇒ 2X = 20

⇒ X = 10 km/h

Downstream speed = 10 + 5 = 15 km/h

Upstream speed = 10 – 5 = 5 km/h

Hence, option A is correct.

4.

Chatur complete$(\frac{3}{5})^{th}$ of assignment in 72 days

Therefore,
Chatur could complete the whole assignment in

$\frac{72 \times 5}{3}$= 120 days

Now,
(Ankur + Bhanu + Chatur) worked for 6 days.

So,

Parts of assignment completed in first six days =$\frac{6}{20}$

Now, according to the question

(Bhanu + Chatur) worked for 4 days

So,

Parts of assignment completed in these four days

$= 1 - (\frac{3}{5} + \frac{6}{20}) = 1 - \frac{9}{10} = \frac{1}{10}$

Therefore,

(Bhanu + Chatur) could complete the whole assignment in (10 × 4) = 40 days

Let Bhanu could complete the whole assignment working alone in x days. Therefore,

$\frac{1}{x} + \frac{1}{120} = \frac{1}{40}$

40 (120 + x) = 120x

120x – 40x = 4800

x = 60

Hence, this is the required solution.

Therefore, option D is correct.

5.

Let Rajeev's present age = x

His father's present age = 3x

Grandfather's present age = 6x

⇒ (x + 3x + 6x)/3 = 110/3

⇒ 10x = 110

⇒ x = 11

Rajeev's present age = 11 years

10 years ago Rajeev's age = 1 year

His father's present age = 33 years

10 years ago = 23 years

His grandfather's present age = 66 years

10 years ago = 56 years

Required ratio = 1: 23: 56

Hence, option B is correct.

6.

Let x and y be the mass of 1st alloy and 2nd alloy.

aluminum in the 1st alloy = $\frac{85x}{100}$

copper in the 1st alloy = $\frac{8x}{100}$

iron in the 1st alloy = $\frac{7x}{100}$

According to question, for copper

$$\frac{\frac{8x}{100}}{x+y} \times 100 = 5$$

$8x = 5x + 5y$

$3x = 5y$

$\frac{x}{y} = \frac{5}{3}$

$x = 5$ and $y = 3$

Let p = percentage of aluminum in the 2nd alloy

According to question,

$5 \times \frac{85}{100} + 3 \times \frac{p}{100} = (5 + 3) \times \frac{75}{100}$

$3p = 175$

$p = \frac{175}{3} = 58.33\%$

Hence, option (B) is correct.

7.

Let total female are 200x and total male are 300x.

Passed female = 35% of 200x = 70x and passed male = 40% of 300x = 120x

Difference between passed male and female = 120x – 70x = 50

$\Rightarrow x = 1$

Total marks scored by passed candidates = (70 × 1 × 280) + (120 × 1 × 320) = 58000

Hence, option (A) is correct.

8.

Time taken by A to complete one round of the circular field

= 150/2 = 75 minutes

Time taken by B to complete one round of the circular field

= 150/2.5 = 60 minutes

Time taken by C to complete one round of the circular field

= 150/3 = 50 minutes

H.C.F of 75, 60, 50 = 300 minutes = 300/60 = 5 hours

Hence, option D is correct.

9.

There are total eight letters

$\therefore n(S) = {}^{8}P_{8} = 8!$

As all vowels should come together, we assume them as one letter. Here E, I, O and U together are taken as one, so the number of letters is 4 + 1 = 5 and it can be arranged in ${}^{5}P_{5} = 5!$ ways and the vowels can be arranged in 4! ways among themselves

$\therefore n(E) = 4! \times 5!$

$$\therefore P(E) = \frac{4!5!}{8!} = \frac{4 \times 3 \times 2}{8 \times 7 \times 6} = \frac{1}{14}$$

Hence, option (C) is correct.

10.

Earlier Interest Rate = 25% p.a.

Therefore, the total interest would have gained in 2 years (applying net % effect formula)

$$= 25 + 25 + \frac{25 \times 25}{100} = 56.25\%$$

If the new rate of interest = 20% p.a. total interest will be gained in 2 years

$$= 20 + 20 + \frac{20 \times 20}{100} = 44\%$$

Then, the interest payable is less by

$$= \frac{56.25 - 44}{56.25} \times 100 = 21.77\%$$

Hence, option E is correct.