



SmartKeeda
The Question Bank

Presents

TestZone

India's least priced Test Series platform

JOIN

12 Month Plan

2018-19 All Test Series

@ Just

₹ **399/-**

300+ Full Length Tests

- Brilliant Test Analysis
- Excellent Content
- Unmatched Explanations

JOIN NOW

Mixed Maths Questions for SBI PO Pre, IBPS PO Pre, IBPS Clerk Mains and SBI Clerk Mains Exams.

Bank PO Maths Quiz 4

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

1. The ratio of the age of 3 family members is 9 : 7 : 1 in 2001. In 2005 a new baby was born in the family and in 2009 the average becomes 24. Find the age of the oldest person in 2001.

- A. 24 years B. 45 years C. 27 years D. 30 years E. 36 years

2. In a mixture of 84 litres there is some water and some milk. Additional quantity of water and milk is added to the mixture in which milk is 3 litres more than the water added and total mixture becomes 103 litres. Find the quantity of the milk added to the mixture.

- A. 9 litre B. 15 litre C. 8 litre D. 11 litre E. None of these

3. A certain sum amounts to Rs 4840 in 2 years and to Rs 5324 in 3 years at compound interest. The simple interest on the same sum at the same rate of interest after 54 months will be:

- A. Rs. 1801 B. Rs. 1701 C. Rs. 1700 D. Rs. 1800 E. None of these

4. A, B and C working together can complete a work in 3 days. If A and B work with 60% and 40% of their efficiency respectively they complete the work in 8 days. But if they (A & B) work with 70% and 30% of their efficiency respectively they complete the work in 10 days in how many days will C be able to complete the work:

- A. 8/3 days B. 8 days C. 40 days D. 30 days E. None of these

5. The average height of girls in a class is 5 ft and that of boys is 5.7 ft. If the average height of the students in class is 5.5 ft what could be the possible strength of boys and girls respectively in the class:

- A. 30, 20 B. 20, 30 C. 50, 20 D. 60, 50 E. None of these

6. In a coaching there are 3 batches namely lolos, momos and jojos. Out of the total students in the coaching there are 25%, 35% and 40% students in these batches respectively. If 2%, 4% and 5% students of respective batches pass then what is the percentage of failed students?

- A. 96.5% B. 86.1% C. 39.6% D. 96.1% E. None of these

7. Pappu purchases some grapes at the rate of 3 grapes for Rs. 40 and the same quantity at 5 grapes for Rs. 60. If he sells all the grapes at the rate of 3 grapes for Rs. 50, find his gain or loss percent (to the nearest integer) :

- A. 31% loss B. 32% profit C. 34% loss D. 32% loss E. None of these

8. Ram and shyam entered into a partnership investing Rs. 16000 and Rs. 12000 respectively. After 3 months, Ram withdrew Rs. 5000 while shyam invested additional Rs. 5000. After another 3 months Ghanshyam joined the business with a capital of Rs. 21000. The share of Shyam exceeds that of Ghanshyam, out of a total profit of Rs. 26400 after one year, by how much amount ?

- A. Rs. 2100 B. Rs. 3600 C. Rs. 2400 D. Rs. 1200 E. None of these

9. The distance between two bus stops of Lucknow and Delhi is 450 km. A bus starts from Lucknow and moves towards Delhi at an average speed of 15 km/h. Another bus starts from Delhi, 20 minutes earlier than the first bus and moves towards Lucknow at an average speed of 20 km/h. How far from Lucknow and from Delhi will the two buses will meet respectively:

- A. 190 km, 260 km B. 290 km, 160 km C. 260 km, 190 km D. 160 km, 290 km E. None of these

10. A boat covers a distance of 30 km downstream in 2 hours while it takes 6 hours to cover the same distance upstream. If the speed of the stream is half that of the boat, then what is the speed of the boat in still water in km per hour?

- A. 12 B. 16 C. 13 D. 10 E. None of these

Correct Answers:

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

Explanations:

1. According to the question,

$$9x + 7x + x + 3 \times 8 + 4 = 24 \times 4$$

$$17x + 24 + 4 = 96$$

$$17x = 96 - 28$$

$$17x = 68$$

$$x = 4$$

$$\text{Age of the oldest person} = 9 \times 4 = 36 \text{ years}$$

Hence, option E is correct.

2. Let x litre water and $x + 3$ litre milk is added in mixture.

$$84 + x + x + 3 = 103$$

$$2x = 103 - 87$$

$$2x = 16$$

$$x = 8$$

$$\text{Milk} = 8 + 3 = 11 \text{ litre}$$

Hence, option D is correct.

3. Let the rate of compound interest be $r\%$ per annum.
Now the amount at the end of 2nd year will be the principal for third year so that

$$5324 = 4840 \left(1 + \frac{r}{100}\right)$$

since here time elapsed will be of one year for 2nd to 3rd year

$$\Rightarrow \frac{r}{100} = \frac{5324}{4840} - 1$$

$$\Rightarrow \frac{r}{100} = \frac{484}{4840}$$

$$\Rightarrow r = 10$$

If the original sum be P then

$$4840 = p \left(1 + \frac{10}{100}\right)^2$$

$$\Rightarrow P = 4000$$

Now simple interest at this rate of interest and this sum for 54 months is

$$\text{S.I.} = \frac{4000 \times 10 \times 54}{100 \times 12} = \text{Rs } 1800$$

Hence, option D is correct.

4. Let the efficiency of A, B and C be $1/A$, $1/B$ and $1/C$ respectively, Then

$$\frac{1}{A} + \frac{1}{B} + \frac{1}{C} = \frac{1}{3} \quad \dots(a)$$

$$\frac{60}{100 \times A} + \frac{40}{100 \times B} = \frac{1}{8} \quad \dots(i)$$

And

$$\frac{70}{100 \times A} + \frac{30}{100 \times B} = \frac{1}{10} \quad \dots(ii)$$

Multiplying (ii) by 4 and (i) by 3 and subtracting (i) from (ii), we get

$$= \left(\frac{180}{100 \times A} + \frac{120}{100 \times B} \right) - \left(\frac{280}{100 \times A} + \frac{120}{100 \times B} \right) = \frac{3}{8} - \frac{4}{10}$$

$$\Rightarrow A = 40 \text{ DAYS}$$

$$\text{Using either (i) or (ii) we get } B = \frac{40}{11}$$

Days \Rightarrow from eqn. (a)

$$\Rightarrow \frac{1}{40} + \frac{11}{40} + \frac{1}{C} = \frac{1}{3}$$

$$\Rightarrow \frac{1}{C} = \frac{1}{3} - \frac{12}{40} = \frac{1}{30}$$

$$\Rightarrow C = 30 \text{ DAYS}$$

Hence, option D is correct.

5. Let number of boys be B and number of girls be G in the class so total strength of class = B + G
If the average height of boys in class is 5.7 ft then total height of boys in class will be 5.7B
Similarly If the average height of girls in class is 5 ft then total height of girls in class will be 5G

ALSO given average height of all students in class is 5.5ft then

$$\frac{7.5B + 5G}{B + G} = 5.5$$

$$\Rightarrow 7.5B + 5G = 5.5B + 5.5G$$

$$\Rightarrow 0.2B = 0.5G \text{ or } 2B = 5G \quad \dots(a)$$

Now we have to choose B and G such thata) gets equal the value at option 3rd i.e B = 50 AND G = 20 satisfy it

Hence, option C is correct.

6. Let total number of students in the coaching be x
 Then number of student in lolos batches = 25% of $x = 0.25x$
 number of student in momos batches = 35% of $x = 0.35x$
 number of student in jojos batches = 40% of $x = 0.40x$
 number of passed students in lolos batches = 2% of $0.25x = 0.005x$
 number of passed students in momos batches = 4% of $0.35x = 0.014x$
 number of passed students in jojos batches = 5% of $0.40x = 0.02x$
 so total number of passed students = $0.005 + 0.014x + 0.02x = 0.039x$
 therefore number of failed students = Total number of students – total number of passed students
 $= x - 0.039x = 0.961x$

Hence the percentage of failed students = $\frac{0.961x}{x} = 96.1\%$

Hence, option D is correct.

7.

Cost price of one grapes when he buys 3 grapes for Rs. 40 = Rs. $\frac{40}{3}$

Let us assume he buys n grapes. So total cost price = Rs. $\frac{40n}{3}$

Cost price of one grapes when he buys 5 grapes for Rs. 60 = Rs. $\frac{60}{5} = \text{Rs. } 12$

So total cost price for n grapes in this case = Rs. $12n$

Selling price of one grapes = Rs. $\frac{50}{3}$

Selling price of $2 \times n$ grapes = Rs. $\frac{100n}{3}$

$$\text{S.P} - \text{C.P} = \frac{100n}{3} - \left(\frac{40n}{3} + 12n \right)$$

$$= \frac{60n}{3} - 12n$$

$$= \frac{24n}{3} = 8n,$$

which is a positive value and hence, it is profit

$$\text{Profit percentage} = \frac{(\text{S.P} - \text{C.P}) \times 100}{\text{C.P}}$$

$$= \frac{8n \times 100}{\frac{76n}{3}} = 31.58\% \approx 32\%$$

Hence, option B is correct.

8. $Ram : Shyam : Ghanshyam = [(16000 \times 3 + 11000 \times 9) : (12000 \times 3 + 17000 \times 9) : (21000 \times 6)]$

$$= (48000 + 99000) : (36000 + 153000) : (126000) = (147000 : 189000 : 126000)$$

$$= (7 : 9 : 6)$$

$$\text{Share of Shyam} = \text{Rs} \left(\frac{9}{22} \right) \times 26400$$

$$\text{Share of Ghanshyam} = \text{Rs} \left(\frac{6}{22} \right) \times 26400$$

Therefore the share of Shyam exceeds that of Ghanshyam by

$$= \text{Rs} \left(\frac{9}{22} \right) \times 26400 - \text{Rs} \left(\frac{6}{22} \right) \times 26400 = \text{Rs} 3600$$

Hence, option B is correct.

9. Let after travelling "t" hr the two bus met each other

If the bus starting from Lucknow have travelled for time "t" hr

then bus starting from Delhi will have travelled for

$$\left(t + \frac{20}{60} \right) \text{ hr}$$

and so the equation

$$(15 \times t) + 20 \times \left(t + \frac{20}{60} \right) = 450$$

$$\Rightarrow 15t + 20t = 450 - \frac{20}{3}$$

$$\Rightarrow 35t = \frac{1330}{3}$$

$$\Rightarrow t = \frac{38}{3} \text{ hr}$$

Distance from Lucknow when the two bus will meet

= (average speed of bus from Lucknow to Delhi) \times (time "t" for which it travelled)

$$= 15 \times \frac{38}{3} \text{ km} = 5 \times 38 \text{ km} = 190 \text{ km}$$

Distance from Delhi when they meet = 450km – 190 km = 260km

Hence, option A is correct.

10.

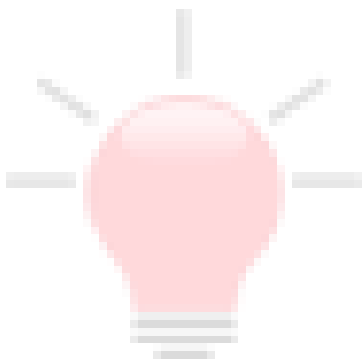
$$\text{Downstream speed} = \frac{30}{2} = 15 \text{ km}$$

$$\text{Upstream speed} = \frac{30}{6} = 5 \text{ km}$$

$$\therefore \text{Speed of the boat} = \frac{15 + 5}{2} = \frac{20}{2}$$

$$= 10 \text{ kmph}$$

Hence option D is correct .



SmartKeeda
The Question Bank



SmartKeeda

The Question Bank

प्रस्तुत करते हैं

TestZone

भारत की सबसे किफायती टेस्ट सीरीज़

अभी
जुड़ें

12 Month Plan

2018-19 All Test Series

@ Just

₹ 399/-

300+ फुल लेन्थ टेस्ट

- श्रेष्ठ विश्लेषण
- उत्कृष्ट विषय सामग्री
- बेजोड़ व्याख्या

अभी जुड़ें