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# Mixed Maths Questions for IBPS PO Pre, IBPS Clerk, LIC AAO, SBI PO Pre, SBI Clerk Exams

## Bank PO Maths Quiz 38

Directions: Read the following questions carefully and choose the right answer.

1. The average weight of a group of girls is 20 kg less than that of a group of boys. If the number of girls is 10 less than that of boys and the average weight of boys is 50 kg and the combined average weight is 45 kg then the sum of the weight of boys is how much more than that of girls?

- A. 750 kg                      B. 600 kg                      C. 400 kg  
D. 800 kg                      E. None of these

2. The ratio of boys to girls in a school was 2 : 3. When 20 girls left the school, then the ratio of boys to girls becomes equal. In what ratio, 140 boys and girls should have joined the school before leaving the girls to make the number of girls 50% less than that of boys?

- A. 4 : 3                      B. 5 : 2                      C. 9 : 5  
D. 6 : 1                      E. None of these

3. In Mohenjo-Daro, when percentage was not in use, a merchant sold the products as buys 5 get 3 free or buy 15 get 5 free plus free transportation. The expenditures on transporting 20 products is equal to the marked price of 5 products. In today scenario, what is the difference between the percentage of discount offered by the merchant?

- A. 15%                      B. 37.5%                      C. 12.5%  
D. 13%                      E. None of these

4. A person can complete a job in 150 days. He started the job alone but after 20 days, he was joined by another person who also can complete the

job in 150 days and before 30 days of complication of work, they were joined by a third person of same efficiency. In how many days the work was completed?

- A. 75 days                      B. 80 days                      C. 70 days  
D. 50 days                      E. None of these

5. The area of the square ABCD is 784 sq. cm. If a circle was drawn inside the square, the circumference of which touch all the sides of square as shown in the figure given below then what is the area of the shaded region?

- A. 168 sq cm                      B. 172 sq cm                      C. 112 sq cm  
D. 84 sq cm                      E. None of these

6. What is the probability that when the letters of words LAPTOP were arranged then vowels never come together?

- A.  $16\frac{2}{3}\%$                       B.  $66\frac{2}{3}\%$                       C.  $88\frac{1}{6}\%$   
D.  $64\frac{1}{6}\%$                       E. None of these

7. At the uniform speed of 60 km per hour an express train takes two hours to travel from point A to point B and the uniform speed (including stoppage) of a passenger train to cover the same distance is 36 km per hour, but without stoppage the passenger train takes equal time taken by the express train. If the passenger train has 5 equal time duration stoppage and the express train doesn't has any stoppage then how many minutes per station does the passenger train stop?

- A. 16 minutes                      B. 12 minutes                      C. 15 minutes  
D. 20 minutes                      E. None of these

**8. A person lends Rs.  $x$  in one bank at the rate of 10% per annum simple interest and Rs.  $2x$  in another bank under compound interest at the same rate of interest. At the end of 2 years, he received total interest of Rs. 744 then what is the value of  $x$ ?**

- A. 1600                      B. 1200                      C. 1500  
D. 1800                      E. None of these

**9. A doctor advised a person to drink 4 litres of water per day. If the person drunk 2 litres of juice, contains 20% water and rest of lassi, contains 75% of water to fulfil the daily quota then how many litres of lassi did he drink?**

- A. 5.1 liters                      B. 4.5 litres                      C. 6 liters  
D. 4.8 litres                      E. None of these

**10. A and B started a business with the investments, 4 : 5 respectively. A being the working partner received Rs. 500 per months out of total profit as a remuneration for running the business. At the end of one – year, the total profit was divided in proportion to the investments. If in a year, A received total amount of Rs. 15000 then what was the total profit?**

- A. Rs. 26250                      B. Rs. 20250                      C. Rs. 33750  
D. Rs. 28750                      E. None of these

**Correct answers:**

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

**Explanations:**

**1.**

Let the number of boys

=  $x$  and the average weight

= 50 kg then the number of girls

=  $x - 10$  and the average weight

= 30 kg

The sum of the weight of girls =  $(x - 10) \times 30$  kg

The sum of the weight of boys =  $x \times 50$  kg

The sum of the weight of boys and girls

=  $45 \times (2x - 10)$  kg

=  $30x - 300 + 50x$

$90x - 80x = 450 - 300 = 150$

$\Rightarrow 10x = 150$

$\Rightarrow x = 15$

The sum of the weight of girls



$$= (x - 10) \times 30 \text{ kg}$$

$$= 30 \times 5 \text{ kg}$$

$$= 150 \text{ kg}$$

The sum of the weight of boys =  $x \times 50 = 750 \text{ kg}$

The required difference =  $750 - 150 = 600 \text{ kg}$

Hence, option B is correct.

**2.**

Let the number of boys =  $2x$  then the number of girls =  $3x$

When 20 girls left the school then

$$\frac{3x - 20}{2x} = \frac{1}{1}$$

$$\Rightarrow x = 20$$

The number of boys

= 40 and the number of girls

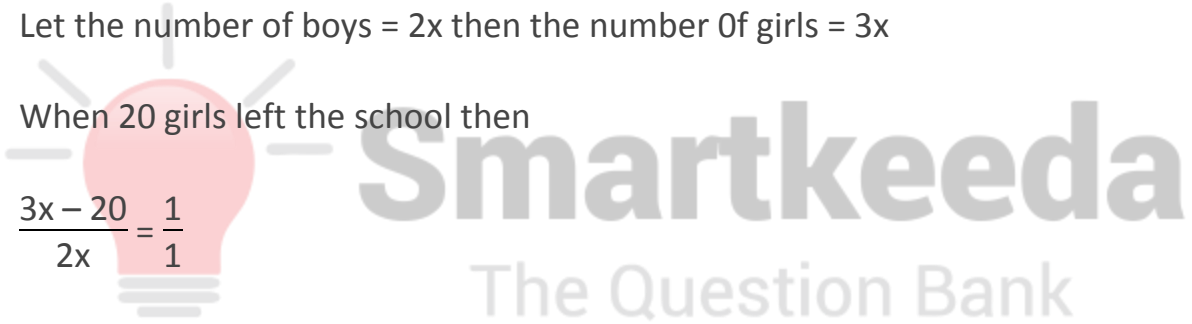
= 60

New ratio = 2 : 1

Let  $x$  boys and  $y$  girls join the school.

$$\frac{40 + x}{60 + y} = \frac{2}{1}$$

$$40 + x = 120 + 2y$$



$$x - 2y = 80 \dots\dots\dots (i)$$

$$\text{And, } x + y = 140 \dots\dots\dots(ii)$$

By solving,  $y = 20$

$$x = 120$$

The required ratio =  $120 : 20 = 6 : 1$

Hence, option D is correct.

**3.**

Let the marked price of one produce = Rs. 10

Then the marked price of 8 products = Rs. 80

When a customer takes 8 products then he pays only for 5 = Rs.  $5 \times 10 =$  Rs. 50

The discount %

$$= \frac{(80 - 50) \times 100}{80}$$

$$= \frac{300}{80} = 37.5\%$$

When he buys 20, he pays for 15 – transportation of 5

= he pays only for 10

The reqd. %

$$= \frac{(200 - 100) \times 100}{200}$$

$$= 50\%$$

The required answer =  $50\% - 37.5\% = 12.5\%$

Hence, option C is correct.

**4.**

The third person also could have done the job in 150 days

Let the work complete in x days

Therefore,

$$\frac{x}{150} + \frac{x-20}{150} + \frac{30}{150} = 1$$

$$2x = 140$$

$$x = 70 \text{ days}$$

Hence, option C is correct.

**5.**

The area of the square = 784 sq. cm

The sides of the square =  $\sqrt{784} = 28 \text{ cm}$

Since, the circle touches all the sides it means the circle is in circle of the square.





The in radius of the square

$$= \frac{\text{side}}{2} = \frac{28}{2} = 14 \text{ cm}$$

The area of the circle of radius 14 cm

$$= A = \pi r^2 =$$

$$= \frac{22}{7} \times 14 \times 14$$

$$= 616 \text{ sq.cm}$$

The area of all the four corners will be equal to each other

The area of all the four corners together

= area of the square – area of the circle

$$= 784 - 616$$

$$= 168 \text{ sq. cm}$$

The area of two corners i.e. the area of the shaded region

$$= \frac{168}{2} = 84 \text{ sq. cm}$$

Hence, option D is correct.

**6.**

The number of vowels in the word LAPTOP = 2

The number of ways 6 letters of the word LAPTOP can be arranged =  $\frac{6!}{2!} = 360$  ways

Consider, all the vowels as a word then the total number of ways 5 letters (when vowels always come together) can be arranged =  $5! = 120$  ways

The probability of vowels always come together

$$= \frac{120}{360} = \frac{1}{3}$$

The probability of vowels never comes together

$$= 1 - \frac{1}{3} = \frac{2}{3} = 66\frac{2}{3}\%$$

Hence, option B is correct.

7.

The total distance from point A to B = speed  $\times$  time =  $120 = 120$  km

The total time taken by the passenger train

$$= \frac{120}{36} = \frac{10}{3} \text{ hours}$$

If it does not have any stoppage then it would have taken 2 hours

The extra time taken by the passenger train

$$= \frac{10}{3} - 2 = \frac{4}{3} \text{ hours} = 80 \text{ minutes}$$

The time for which it stops at each station

$$= \frac{80}{5} = 16 \text{ minutes}$$

Hence, option A is correct.

**8.**

The SI at the end of 2 years @ 10% per annum

$$= \frac{x \times 2 \times 10}{100} = \frac{x}{5} = 0.2x$$

The Compound interest of 2 years @ 10% per annum

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

$$= 2x \times 1.21 - 2x = 0.42x$$

$$\text{The sum} = 0.2x + 0.42x = 0.62x = 744$$

$$x = 1200$$

Hence, option B is correct.

**9.**

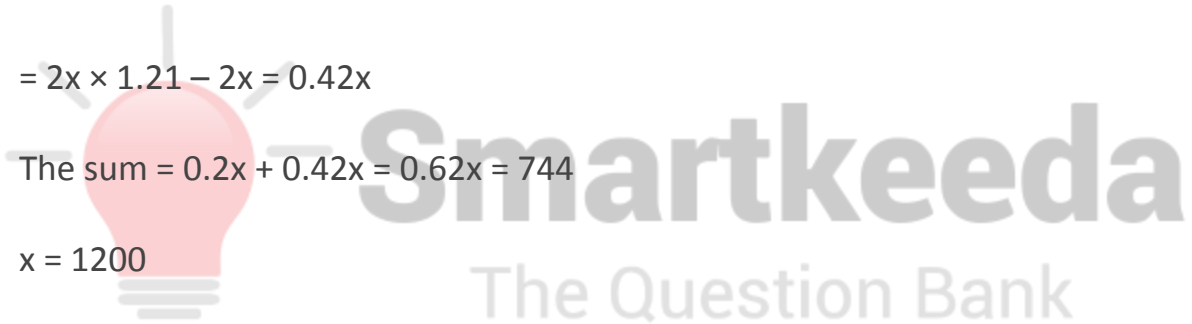
In 2 litres of juice, the quantity of water = 20% of 2 = 0.4 litres

The remaining quantity of water he should drink to fulfil the daily quota = 4  
– 0.4 = 3.6 litres of water

In lassi, the quantity of water = 75%

Let x litres of lassi he drinks then, 75% of x = 3.6

$$x = \frac{3.6 \times 4}{3} = 1.2 \times 4 = 4.8 \text{ litres}$$



Hence, option D is correct.

**10.**

The total share of A after taking Rs. 500 per month

$$= 15000 - 12 \times 5$$

$$= 9000$$

The ratio of A's share : B's share = 4 : 5

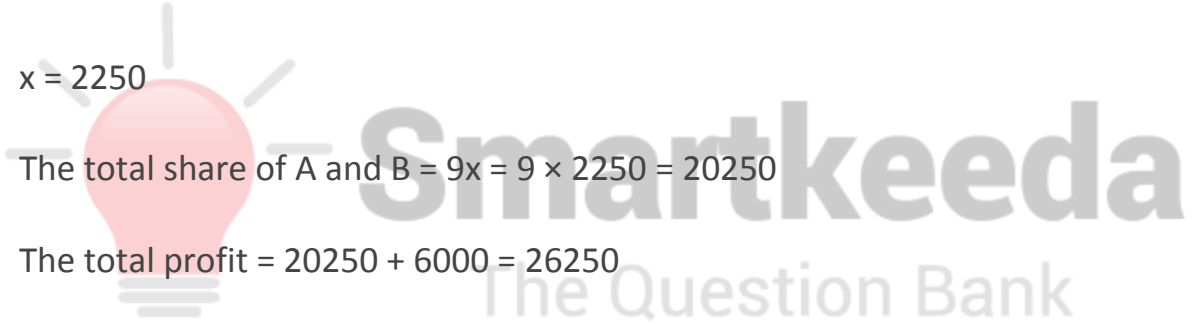
$$\text{Let A's share} = 4x = 9000$$

$$x = 2250$$

$$\text{The total share of A and B} = 9x = 9 \times 2250 = 20250$$

$$\text{The total profit} = 20250 + 6000 = 26250$$

Hence, option A is correct.





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