

# Mixed Maths Questions for SBI Clerk Mains, IBPS Clerk Mains, RBI Assistant Mains, LIC AAO, SBI PO Pre, IBPS PO Pre and RRB Scale I Pre Exams. 

Bank PO Maths Quiz 41
Directions: Read the following questions carefully and choose the right answer.

1. A shopkeeper marked a product, $20 \%$ above the cost price and sold the product for Rs. 3888 by giving two successive discounts of $10 \%$ each. Find the cost price of the product and the loss percentage of the shopkeeper.
A. $4200,7.4 \%$
B. $4000,2.8 \%$
C. $4100,5.1 \%$
D. 4050, 4\%
E. None of these
2. Siraj and Hiten started a business with investment of Rs. 15000 and Rs. 18000, respectively. After one year, Siraj increased his investment by $10 \%$ while Hiten decreased his investment by $10 \%$. At the end of two years, total profit made by the business is Rs. 13140. Find the share of profit of Hiten.
A. Rs. 6220
B. Rs. 6840
C. Rs. 6280
D. Rs. 7480
E. Rs. 6530
3. A farmer mixes two varieties of rice of price Rs. 72 per kg and Rs .48 per kg in the ratio of 1: 2. He sold the mixture for Rs. 4200 to earn a profit of $\mathbf{2 5 \%}$. Find the quantity of rice of cost Rs. 72 per kg in the mixture.
A. 20 Kg
B. 30 kg
C. 40 kg
D. 50 kg
E. 60 kg
4. A man deposited ' $x$ ' $\%$ of his monthly salary which is Rs. 60000 at $13 \%$ simple interest. If the accumulated amount for the sum deposited after 3 years was Rs. 29190, then find the value of ' $x$ '.
A. 40
B. 35
C. 45
D. 50
E. None of these
5. Out of total students $100 / 3 \%$ are in hostel $A$ and remaining are in hostel $B$. If 20 students from hostel B are shifted to hostel A, then total students in hostel A becomes $\mathbf{5 0 \%}$ of total students. If $\mathbf{2 0}$ students from hostel $A$ are shifted to hostel $B$, then the total students in hostel A becomes what per cent of total students?
A. $26.34 \%$
B. $16.67 \%$
C. $12.75 \%$
D. $20.67 \%$
E. None of these
6. 3 workers Peroola, Rahul and Prashant can complete a piece of work in 6 days. Peroola takes 15 days less than Rahul to complete the same work. Find in how many days will Prashant complete the whole work alone with $75 \%$ of his original efficiency, if Rahul can complete the work alone in 35 days?
A. $\frac{560}{37}$ days
B. $\frac{499}{36}$ days
C. $\frac{361}{17}$ days
D. $\frac{555}{43}$ days
E. None of these
7. Arnab deposited Rs. 14500 in SBI mutual fund which offers simple interest at the rate of $9 \%$. The simple interest obtained from SBI is deposited in Birla Sun Life mutual fund at the rate of $12 \%$ simple interest. If the time period for depositing in SBI and Birla were $\mathbf{2}$ years and 5 years respectively, then find the total simple interest earned by Arnab.
A. Rs. 5248
B. Rs. 3856
C. Rs. 4176
D. Rs. 4462
E. None of these
8. The marked price of a John Players Denim is Rs. 1490. On the occasion of Rakshabandhan, the showroom offered two successive discounts of $11.25 \%$ and D\% respectively. If an individual purchased the Denim for Rs. 1193.44, then find the value of value of ' $D$ '?
A. 9.75
B. 8.75
C. 5.5
D. 10.75
E. 11.25
9. The present average age of a group of 60 athletes is $50 \%$ more than the average age of the 60 athletes 5 years ago. The average age of the group will become $Y$, if two new athletes of $\mathbf{2 2}$ year and $\mathbf{3 8}$ years join the group. Find the value of Y .
A. 14.44
B. 17.54
C. 15.48
D. 16
E. None of these
10. Dhawan and Satish started a start-up by investing Rs. 35000 and Rs. 21000 respectively. The ratio of months invested by Dhawan to Satish is "p : q" and the number of months for which Satish invested into the business was 4 less than the number of month for which Dhawan invested. If the ratio of the total profit to the share of Dhawan was $7: 5$, then find $p: q$.
A. $2: 5$
B. $1: 3$
C. $1: 2$
D. $3: 4$
E. $3: 2$

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## Correct Answers:

| $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ | $\mathbf{6}$ | $\mathbf{7}$ | $\mathbf{8}$ | $\mathbf{9}$ | $\mathbf{1 0}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B | B | A | B | B | A | C | A | C | E |

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## Explanations:

1. Selling price of the product $=$ Rs. 3888

Overall discount percentage
$=10+10-\frac{10 \times 10}{100}=19 \%$

Marked price of the product $=\frac{3888}{0.81}=$ Rs. 4800
Cost price of the article $=\frac{4800}{1.2}=$ Rs. 4000

Reqd. loss $\%=\frac{4000-3888}{4000} \times 100=2.8 \%$

Hence, option B is correct.
2. Total amount invested by Siraj $=15000+110 \%$ of $15000=15000+16500=$ Rs. 31500

Total amount invested by Hiten $=18000+90 \%$ of $18000=18000+16200=$ Rs. 34200
Ratio of profit share $=31500: 34200=315: 342$
Share of profit of Hiten $=\frac{342}{657} \times 13140=$ Rs. 6840
Hence, option B is correct.

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3. 


$(x-48):(72-x)=1: 2$
$2 x-96=72-x$
$3 x=168$
$x=\frac{168}{3}=56$

Total price of rice $=\frac{4200}{1.25}=$ Rs .3360

Therefore, total quantity of mixture of rice
$=\frac{3360}{56}=60 \mathrm{~kg}$
So, required quantity of rice $=\frac{1}{3} \times 60=20 \mathrm{~kg}$

Hence, option A is correct.
4. According to the question,
$(x \%$ of 60000$)+\frac{(x \% \text { of } 60000) \times 13 \times 3}{100}=29190$
$600 x+234 x=29190$
$834 x=29190 ; x=35$
So, the value of ' $x$ ' $=35$

Hence, option B is correct.
5. Let total students $=\mathrm{N}$
students in hostel $A=33 \underline{1} \%$ of $N=\underline{N}$
students in hostel $\mathrm{B}=\mathrm{N}-\frac{100 \mathrm{~N}}{3}=\frac{2 \mathrm{~N}}{3}$

According to question-
$\Rightarrow \frac{\mathrm{N}}{3}+20=\frac{\mathrm{N}}{2}$
$\Rightarrow 20=\frac{\mathrm{N}}{6}$
$\Rightarrow \mathrm{N}=120$

Now, if 20 students from hostel A are shifted to hostel B-
$\Rightarrow \frac{\frac{\mathrm{N}}{3}-20}{\mathrm{~N}} \times 100=\frac{20}{120} \times 100=16.67 \%$

Hence, option B is correct
6. Peroola + Rahul + Prashant $=6$

Rahul $=35$
Peroola $=(35-15)=20$
Total units of work $=420$
(Peroola + Rahul + Prashant)'s one day work = 70 units
Peroola's one day work = 21 units
$\Rightarrow$ Rahul $=12$ units

Prashant's one day work $=70-33=37$ units
Prashant's efficiency to do the work alone $=\frac{75}{100} \times 37$

Time required to complete the work $=\frac{420 \times 4}{37 \times 3}=\frac{560}{37}$ days
Hence, option A is correct.
7. Simple interest earned from SBI mutual fund
$=\underline{14500 \times 9 \times 2}=$ Rs. 2610

Simple interest earned from Birla Sun Life mutual fund
$=\frac{2610 \times 12 \times 5}{100}=$ Rs. 1566

Total simple interest earned $=2610+1566=$ Rs. 4176

Hence, option C is correct.
8. $\quad$ Marked price $=1490$
$1^{\text {st }}$ discount $=11.25 \%$

Price after $1^{\text {st }}$ discount
$=1490-\frac{1490 \times 11.25}{100}=1322.375$
$2^{\text {nd }}$ discount $=D \%$
Price after $2^{\text {nd }}$ discount
$=1322.375-\frac{1322.375 \times \mathrm{D}}{100}=1193.44$
$\Rightarrow 1322.375 \times\left(1-\frac{D}{100}\right)=1193.44$
$\Rightarrow\left(1-\frac{D}{100}\right)=\frac{1193.44}{1322.375}=0.90249$
$\Rightarrow\left(\frac{100-D}{100}\right)=0.90249$
$\Rightarrow \mathrm{D}=9.75 \%$

Hence, option A is correct.
9. Let, the present average age of the group $=X$

Then according to the question,
$\Rightarrow \frac{150}{100}(X-5)=x$
$\Rightarrow x=15$
The required average ' $Y$ ' $=\frac{15 \times 60+22+38}{62}=15.48$

Hence, option C is correct.
10. Ratio of investment $=35000: 21000=5: 3$

Let Dhawan invested for X month
Then Satish invested for ( $\mathrm{X}-4$ )
According to question
$\Rightarrow \frac{5 X+3(X-4)}{5 X}=\frac{7}{5}$
$\Rightarrow \mathrm{X}=12$

Now,


Number of months for which Dhawan invested = 12 months

Number of months for which Satish invested $=(12-4)=8$ months
$\therefore$ Required Ratio $=12: 8=3: 2$
Hence, option E is correct.

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