

Revision XII

February 21, 2026

- Everyday Ajit runs 15 rounds on a circular track of 400 m in ' T ' minutes. One day, after completing N complete rounds he reduced his speed to 60% due and so took ' $T + 4$ ' minutes to complete 15 rounds that day. Had he reduced his speed after completing 3 more rounds, he would have taken ' $T + 2$ ' minutes. Find N ?

- In a school there are 900 students. Each student attends 6 classes per day. Every teacher teaches 5 classes per day. The strength in every section is 45. How many teachers are present in the school?

- A bottle without its lid weighs 12% of its weight when bottle is completely filled with a particular liquid. After adding the lid to the bottle, the weight of the fully filled bottle increases by 2%. If the weight of a partly filled bottle is $\frac{1}{3}$ of the completely filled bottle with lid attached, then what fraction of the liquid in the bottle is utilized?

- A trader mixes three varieties of tea T1, T2, and T3 priced at Rs.316 per kg, Rs.256 per kg and Rs.248 per kg, respectively in the ratio 1 : 2 : 4. To 4 kg of this mixture he again adds T1 and T3 in the ratio 1 : 5. Then he sells this new mixture for Rs.324.50 per kg thereby making a profit of 25%. What quantity (in kg) of T3 did he mix with the mixed variety of tea?

- ABC is a right-angled isosceles triangle with AC as its hypotenuse. APC is a semicircle with a diameter AC, located away from point B. AQC is an arc of a circle centered at B, which lies between AC and APC. If the length of AB is 4 cm, what is the area (in sq. cm) of the region enclosed by AQC and APC?

- Let $5x + 8y = 3$ where $|x| < 100$ and $|y| < 100$. Find the number of integer solutions (x, y) satisfying the linear equation.

- Three friends P, Q, and R are assigned a job. R can do 60% of the job in 15 days. The efficiency of Q is 25% more than that of R. Both Q and R started working together and left the work after eight days. P completed the remaining work in 7 days. The efficiency of P is what percent more or less than that of Q?

- In a candy store, there are four different flavors of candies: 6 strawberry, 8 chocolate, 7 mint, and 5 caramel. Lisa is selecting candies from a jar without looking. What is the minimum number of candies Lisa must select to guarantee that she has at least four candies of the same flavor?

- Raj, Tina, and Mohan were supposed to divide a certain amount, M, among themselves in the ratio 2 : 3 : 4 respectively. However, they made a mistake and divided the amount in the ratio 4 : 2 : 1 instead. As a result, Raj gained Rs. 3,300. In the process, how much more or less (in Rs.) did Tina get?

- Parag invested some money into two parts in the ratio of 3 : 4. He earned compound interest on both parts for two years, one at a 15% rate and the other at a 20% rate compounded annually, respectively. If he swaps the interest rates, he'll get Rs. 1,410 less in interest than earlier interest. Find the total money (in Rs.) Parag invested.

- There are 8 consecutive odd natural numbers. If the product of the 4th and the 5th numbers is 783, then find the average of all the numbers.

- A train covers the distance between A and B at a speed of 45 km/h. Ravi travels from A to B by train and on the return journey, he covers 180 km by bus at a speed of 30 km/h and after that he takes a detour by taxi, which increases his total distance by 15 km. If the speed of the taxi on the extended route is 60 km/h and it takes 105 minutes more while returning, then find the distance (in km) between A and B.





















