

Regional Selection – Mathematics
Sample Questions

- Q1. There are 50 days rations for 1200 soldiers in an army camp. After 15 days 200 soldiers move to another camp. How many days will the rations last for the remaining soldiers in the camp? 2
- Q2. In a stationery shop Mohan spent Rs 181.50. He bought a dictionary, which cost twice as much as the pen and three times as much as the note book. Find the cost of the individual items. 3
- Q3. A garden of 12m x 10m is to be turfed and surrounded by a border 2 m wide, using slate slabs. 325 slate slabs were used to construct the border.
- a. Find out the width of a slab if the length of a slab is 64 cm long. 2
- b. How much in total would it cost to complete the garden (project) if the turf costs Rs 350 per 2m² and Rs 35 per slate slab? 2
- Q4. Solve the given simultaneous equations: 2
- $$\begin{aligned}3x + 2y &= 7 \\x + y &= 3\end{aligned}$$
- Q5. Rajani wants to make a cake and the recipe requires 75g each of flour, sugar, butter and 3 eggs. Rajani only has 2 eggs so she decides to make a smaller cake with the same proportions.
- a. If each egg weighs 25g, how much will the cake weigh before it is baked in the oven? 2
- b. When baked the cake loses 1/5 of its weight (due to moisture loss). What will a piece of cake weigh if the cake is split in 5 equal pieces? 1
- Q6. A sum of Rs 4,500 is invested for 3 years at 6% per annum. Calculate the total amount with compound interest. 2
- Q7. A bank manager receives Rs18, 000 for a basic 36-hour week. Overtime is paid at time and a half. How many hours are worked in a week when his total wage is Rs 23250.00? 2
- Q8. The diagram shows a plan of a school hall. The school development committee decide to put a carpet in the hall. The carpet is sold in units of 4m².
- a. Find out the area of the school hall and work out how many units of carpet are required to cover the hall? 1
- b. The carpet costs Rs 150 per 4m² plus 12% delivery charge on the total sale. Find the total cost of carpeting? 2
- Q9. A wheel is rotating at the rate of 7,200 revolutions/hour. Calculate:
- a. How many revolutions does it make in $\frac{3}{4}$ hrs? 1
- b. How long will it take to make 3,000 revolutions? 1

Q10. Kathmandu is 200 Km away from Pokhara. A night bus leaves Pokhara at 9 minutes past 9 in the evening. Find out:

a. How long will it take to complete this journey if the bus driver drives 120 Km at an average speed of 40 Km/hr and the rest of the journey at 50km/hr? 1

b. The bus stops for 30 minutes break every 2 hours. What time will the bus arrive in Kathmandu the next day? 1