

Case-Based Mathematics Problems

Problem 1: Science Museum Trip

A family of 2 adults and 3 children planned a visit to a science museum during their holidays. The entry fee was:

- Adult ticket = ₹180, Child ticket = ₹120

They also bought:

- 5 bottles of water at ₹25 each
- 3 snack boxes at ₹80 each

After completing the visit, they purchased 2 science activity books costing ₹150 each. The museum offered a discount of ₹100 on the total purchase. The family had a budget of ₹2000 for the trip.

- Write the arithmetic expression for the total ticket cost.
- Write an arithmetic expression for the total expenditure before the discount.
- Evaluate the total expenditure before the discount.
- How much money was left from their budget?
- If 2 bottles of waters and 2 snack boxes are needed more, then by how much the total expenditure would increase?

Problem 2: School Plantation Drive

To celebrate Environment week, class VII students organize a plantation drive. The school purchased different gardening materials:

- 18 saplings at ₹45 each

- 12 packets of manure at ₹35 each
- 8 watering cans at ₹120 each

The school also received a discount of ₹250 on the total bill. The eco-club had collected ₹2500 from students for the event.

- (a) Write an arithmetic expression to represent the total amount before discount.
- (b) Evaluate the expression.
- (c) How much money remained with the eco-club after making the payment.