



Class 9 Maths – Ganita Manjari Part II

Chapter 13: Two Variables, One Line

Exercise Set 13.4 – Complete Solutions

Q1. On two different days a family buys movie tickets and snack boxes. Let the cost of one movie ticket be ₹ x and the cost of one snack box be ₹ y . Frame a pair of linear equations in x and y to represent the following situations.

(i) On the first day, the family buys 2 movie tickets and 3 snack boxes for ₹850.

Cost of 2 movie tickets:

$$2x$$

Cost of 3 snack boxes:

$$3y$$

Total cost = ₹850

Therefore,

$$2x + 3y = 850$$

Answer:

$$2x + 3y = 850$$

(ii) On the second day, the family buys 4 movie tickets and 1 snack box for ₹1100.

Cost of 4 movie tickets:

$$4x$$

Cost of 1 snack box:

$$y$$

Total cost = ₹1100

Therefore,

$$4x + y = 1100$$

Answer:

$$4x + y = 1100$$

Pair of linear equations:

$$2x + 3y = 850$$

$$4x + y = 1100$$

Q2. Two friends, Sahil and Meena, travelled by taxi. Let the fixed charge for one taxi trip be ₹ x and the additional charge per kilometre be ₹ y . Frame a pair of linear equations in x and y to represent the following situation.

(i) Sahil travelled 6 km and paid a total fare of ₹122.

Fixed charge = ₹ x

Additional charge for 6 km = $6y$

Total fare = ₹122

Therefore,

$$x + 6y = 122$$

Answer:

$$x + 6y = 122$$

(ii) Meena travelled 8 km and paid a total fare of ₹160.

Fixed charge = ₹ x

Additional charge for 8 km = $8y$

Total fare = ₹160

Therefore,

$$x + 8y = 160$$

Answer:

$$x + 8y = 160$$

Pair of linear equations:

$$x + 6y = 122$$

$$x + 8y = 160$$

Q3. In a sports meet, tickets for adults cost ₹150 each and tickets for children cost ₹100 each. A total of 200 people attended the meet, and the total amount collected from ticket sales was ₹25,000.

Let the number of adult tickets sold be x and the number of children's tickets sold be y . Frame a pair of linear equations in x and y to represent this situation.

Let:

Number of adult tickets = x

Number of children's tickets = y

Total number of people

There were 200 people.

Therefore,

$$x + y = 200$$

Total ticket collection

Adult tickets:

$$₹150x$$

Children's tickets:

$$₹100y$$

$$\text{Total} = ₹25,000$$

Therefore,

$$150x + 100y = 25000$$

We can divide this equation by 50:

$$3x + 2y = 500$$

Answer:

The required pair of linear equations is:

$$x + y = 200$$

$$150x + 100y = 25000$$

or, equivalently,

$$x + y = 200$$

$$3x + 2y = 500$$