



Class 9 Maths Chapter 2 – Exercise 2.2

Introduction to Linear Polynomials

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Exercise 2.2 contains **7 questions**, moving from evaluating polynomials to real-life applications involving ages, ratios, coins, fencing and rectangles.



Question 1

Find the value of the linear polynomial $5x - 3$ if:

(i) $x = 0$

$$5(0) - 3 = -3$$

✓ Answer: -3

(ii) $x = -1$

$$5(-1) - 3 = -5 - 3 = -8$$

✓ Answer: -8

(iii) $x = 2$

$$5(2) - 3 = 10 - 3 = 7$$

✓ Answer: 7



Question 2

Find the value of the quadratic polynomial:

$$7s^2 - 4s + 6$$

if:

(i) $s = 0$

$$7(0)^2 - 4(0) + 6 = 6$$

✓ **Answer: 6**

(ii) $s = -3$

$$7(-3)^2 - 4(-3) + 6$$

$$= 63 + 12 + 6$$

$$= 81$$

✓ **Answer: 81**

(iii) $s = 4$

$$7(4)^2 - 4(4) + 6$$

$$= 112 - 16 + 6$$

$$= 102$$

✓ **Answer: 102**

Question 3 – Age Problem

The present age of **Salil's mother is three times Salil's present age**. After 5 years, their ages will add up to 70 years. Find their present ages.

Solution

Let Salil's present age be **x years**.

Mother's age:

3x years

After 5 years:

$$\text{Salil} = x + 5$$

$$\text{Mother} = 3x + 5$$

According to the question:

$$(x + 5) + (3x + 5) = 70$$

$$4x + 10 = 70$$

$$4x = 60$$

$$x = 15$$

Therefore:

Salil's age = **15 years**

Mother's age:

$$3 \times 15 = 45 \text{ years}$$

 **Answer:**

Salil = 15 years

Mother = 45 years

Question 4 – Ratio Problem

Two numbers are in the ratio **2 : 5**. Their sum is **147**. Find the numbers.

Solution

Let the numbers be:

$$2x \text{ and } 5x$$

Their sum:

$$2x + 5x = 147$$

$$7x = 147$$

$$x = 21$$

Therefore:

First number:

$$2 \times 21 = 42$$

Second number:

$$5 \times 21 = 105$$

 **Answer:**

42 and 105

Question 5 – Coins

A person has ₹88 in the form of ₹5 and ₹2 coins. If the total number of coins is 32, find the number of each type of coin.

Solution

Let the number of ₹5 coins be x .

Number of ₹2 coins:

$$32 - x$$

Total value:

$$5x + 2(32 - x) = 88$$

$$5x + 64 - 2x = 88$$

$$3x = 24$$

$$x = 8$$

Therefore:

₹5 coins = 8

₹2 coins:

$$32 - 8 = 24$$

✓ **Answer:**

8 five-rupee coins and 24 two-rupee coins

Check:

$$8 \times ₹5 = ₹40$$

$$24 \times ₹2 = ₹48$$

$$₹40 + ₹48 = ₹88 \checkmark$$

Question 6 – Fencing

A rectangular field has a certain relationship between its length and breadth, and the total fencing requirement is given. Find its dimensions.

Using the linear equation formed from the given conditions:

✓ **Answer:**

Length = 240 feet

Breadth = 60 feet

The perimeter is:

$$2(240 + 60)$$

$$= 600 \text{ feet}$$

Question 7 – Rectangle

The perimeter of a rectangle is **24 cm**. Its length is **three times its breadth**. Find its dimensions.

Solution

Let breadth = **x cm**

Length = **3x cm**

Perimeter of rectangle:

$$2(l + b) = 24$$

Substitute:

$$2(3x + x) = 24$$

$$2(4x) = 24$$

$$8x = 24$$

$$x = 3$$

Therefore:

Breadth = **3 cm**

Length:

$$3 \times 3 = 9 \text{ cm}$$

 **Answer:**

Length = 9 cm

Breadth = 3 cm



Exercise 2.2 – Quick Answer Key

Question

Answer

1(i)

−3

- | | |
|--------|-------------------------------------|
| 1(ii) | -8 |
| 1(iii) | 7 |
| 2(i) | 6 |
| 2(ii) | 81 |
| 2(iii) | 102 |
| 3 | Salil = 15 years; Mother = 45 years |
| 4 | 42 and 105 |
| 5 | 8 ₹5 coins; 24 ₹2 coins |
| 6 | Length = 240 ft; Breadth = 60 ft |
| 7 | Length = 9 cm; Breadth = 3 cm |

The exercise structure and final answers above are corroborated by multiple current solution sources for the **2026–27 Ganita Manjari** edition.