



CLASS 9 MATHEMATICS



CHAPTER 2 – INTRODUCTION TO LINEAR POLYNOMIALS



MCQ WORKSHEET | Ganita Manjari | 2026–27

This worksheet follows the **new Chapter 2 of Ganita Manjari: “Introduction to Linear Polynomials”**, including algebraic expressions, polynomials, linear polynomials, linear patterns, growth and decay, linear relationships, slope, y-intercept and graphs.

Name: _____

Class: IX Section: _____

Date: _____



Instructions

- Choose the **one correct answer**.
 - Attempt all questions.
 - **Total: 40 MCQs**
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PART A – ALGEBRAIC EXPRESSIONS & POLYNOMIALS

1. Which of the following is an algebraic expression?

- A. 25
 - B. $2x^2 + 5xy - 3y^2$
 - C. $7 = 7$
 - D. $12 \div 0$
-

2. How many terms are there in:

$$2x^2 + 5xy - 3y^2?$$

- A. 2
 - B. 3
 - C. 4
 - D. 5
-

3. What is the degree of:

$$x^2 + 5x + 3?$$

- A. 1
 - B. 2
 - C. 3
 - D. 5
-

4. What is the degree of:

$$3y^3 - 4y^2 + 5?$$

- A. 1
 - B. 2
 - C. 3
 - D. 4
-

5. Which of the following is a linear polynomial?

- A. $x^2 + 1$
 - B. $x^3 - 2$
 - C. $2x + 3$
 - D. $x^2 + x + 1$
-

6. A polynomial of degree one is called a:

- A. Constant polynomial
- B. Quadratic polynomial

- C. Cubic polynomial
 - D. Linear polynomial
-

7. Which of the following is a constant polynomial?

- A. $5x + 2$
 - B. x^2
 - C. -7
 - D. $3x$
-

8. Which expression has exactly two terms?

- A. $x + 5$
 - B. $x^2 + 3x + 2$
 - C. 7
 - D. $x^3 + 2x^2 + x + 1$
-

9. The coefficient of x in:

$$7x - 4$$

is:

- A. -4
 - B. 4
 - C. 7
 - D. -7
-

10. Which of the following is not a linear polynomial?

- A. $5x - 2$
- B. $-3x + 7$
- C. $x + 10$
- D. $x^2 + 1$

PART B – VALUE OF POLYNOMIALS

11. The value of $5x - 3$ when $x = 0$ is:

- A. 0
 - B. 3
 - C. -3
 - D. 5
-

12. The value of $5x - 3$ when $x = -1$ is:

- A. -2
 - B. -8
 - C. 8
 - D. 2
-

13. The value of $5x - 3$ when $x = 2$ is:

- A. 5
 - B. 7
 - C. 8
 - D. 10
-

14. If $p(x) = 3x + 4$, then $p(2)$ is:

- A. 6
 - B. 8
 - C. 10
 - D. 12
-

15. If $p(x) = 2x - 5$, then $p(-3)$ is:

- A. -1
 - B. -11
 - C. 11
 - D. 1
-

16. If $p(x) = 7x + 1$, for which value of x is $p(x) = 15$?

- A. 1
 - B. 2
 - C. 3
 - D. 4
-

PART C – LINEAR PATTERNS

17. A linear pattern has:

- A. A constant difference between consecutive terms
 - B. A constant product between consecutive terms
 - C. Random differences
 - D. Always increasing squares
-

18. Which sequence represents a linear pattern?

- A. 2, 4, 6, 8, ...
 - B. 1, 2, 4, 8, ...
 - C. 1, 4, 9, 16, ...
 - D. 2, 6, 18, 54, ...
-

19. The common difference of:

7, 11, 15, 19, ...

is:

- A. 2
 - B. 3
 - C. 4
 - D. 5
-

20. The next term of:

15, 12, 9, 6, ...

is:

- A. 5
 - B. 4
 - C. 3
 - D. 2
-

21. Which sequence has a common difference of -5?

- A. 2, 7, 12, 17
 - B. 20, 15, 10, 5
 - C. 5, 10, 20, 40
 - D. 30, 25, 15, 0
-

22. If the first term of a linear pattern is 8 and the common difference is 3, the second term is:

- A. 5
 - B. 10
 - C. 11
 - D. 24
-

PART D – LINEAR GROWTH & DECAY

23. In linear growth, a quantity:

- A. Increases by a fixed amount over equal intervals
 - B. Doubles every time
 - C. Increases randomly
 - D. Always increases by a percentage
-

24. In linear decay, a quantity:

- A. Increases by a fixed amount
 - B. Decreases by a fixed amount over equal intervals
 - C. Doubles every year
 - D. Becomes zero immediately
-

25. A plant is 2 m tall and grows by 0.5 m every month. Its height after 4 months will be:

- A. 2.5 m
 - B. 3 m
 - C. 4 m
 - D. 4.5 m
-

26. A phone costs ₹20,000 and loses ₹2,000 in value every year. Its value after 5 years is:

- A. ₹8,000
 - B. ₹10,000
 - C. ₹12,000
 - D. ₹15,000
-

27. A quantity starts at 50 and decreases by 4 every step. Which expression gives its value after n steps?

- A. $50 + 4n$
- B. $50 - 4n$
- C. $4n - 50$
- D. $50n - 4$

28. A student's savings are ₹100 initially and increase by ₹50 every month. Which equation represents the savings S after n months?

- A. $S = 100n + 50$
 - B. $S = 50n - 100$
 - C. $S = 100 + 50n$
 - D. $S = 100 - 50n$
-

PART E – LINEAR RELATIONSHIPS

29. Which equation represents a linear relationship?

- A. $y = x^2 + 1$
 - B. $y = 2x + 5$
 - C. $y = x^3$
 - D. $y = 1/x$
-

30. In the equation:

$$y = ax + b$$

a represents the:

- A. y-intercept
 - B. Constant term
 - C. Slope
 - D. x-coordinate
-

31. In:

$$y = 3x + 7$$

the slope is:

- A. 3
 - B. 7
 - C. -3
 - D. -7
-

32. In:

$$y = 3x + 7$$

the y-intercept is:

- A. 3
 - B. -3
 - C. 7
 - D. -7
-

33. The line:

$$y = 2x + 5$$

cuts the y-axis at:

- A. (5, 0)
 - B. (0, 2)
 - C. (2, 5)
 - D. (0, 5)
-

34. The y-intercept of:

$$y = 4x - 6$$

is:

- A. 4
 - B. 6
 - C. -4
 - D. -6
-

35. Which equation represents a line passing through the origin?

- A. $y = 2x + 3$
 - B. $y = 5x$
 - C. $y = x + 5$
 - D. $y = 7$
-

36. The graph of a linear relationship is generally a:

- A. Circle
 - B. Parabola
 - C. Straight line
 - D. Triangle
-



PART F – GRAPHS & SLOPE

37. For the equation:

$$y = 4x$$

the value of y when $x = 2$ is:

- A. 2
 - B. 4
 - C. 6
 - D. 8
-

38. Which line is steeper?

- A. $y = x$
 - B. $y = 2x$
 - C. $y = 3x$
 - D. $y = 5x$
-

39. Two lines have equations:

$$y = 3x + 2$$

and

$$y = 3x - 5$$

These lines are:

- A. Perpendicular
- B. Parallel
- C. The same line
- D. Curved

When the slope is the same but the y-intercepts differ, the lines are parallel.

40. A line with a positive slope:

- A. Falls from left to right
- B. Rises from left to right
- C. Is always horizontal
- D. Is always vertical

The textbook notes that a positive slope means the line rises from left to right, while a negative slope means it falls.



ANSWER KEY

Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	11	C	21	B	31	A
2	B	12	B	22	C	32	C
3	B	13	B	23	A	33	D
4	C	14	C	24	B	34	D
5	C	15	B	25	C	35	B

6	D	16	B	26	B	36	C
7	C	17	A	27	B	37	D
8	A	18	A	28	C	38	D
9	C	19	C	29	B	39	B
10	D	20	C	30	C	40	B



CHAPTER 2 QUICK REVISION

♦ Polynomial

An algebraic expression made up of terms involving variables and constants.

♦ Degree

The highest power of the variable.

♦ Linear Polynomial

A polynomial of degree 1.

Example:

$$3x + 5$$

♦ Linear Pattern

A sequence in which consecutive terms have a **constant difference**.

♦ Linear Growth

A quantity increases by a fixed amount over equal intervals.

Example:

$$h = 1.75 + 0.5t$$

♦ Linear Decay

A quantity decreases by a fixed amount over equal intervals.

Example:

$$v = 10000 - 800t$$

The textbook uses plant growth and phone depreciation as examples of linear growth and decay.

♦ Linear Relationship

$$y = ax + b$$

 $a = \text{slope}$

 $b = \text{y-intercept}$

♦ Graph

A linear relationship is represented by a **straight line**.

★ Important

Positive slope → line rises 

Negative slope → line falls 

Same slope + different intercepts → parallel lines.