

Mathematics

Class 9

Chapter 2: Introduction to Linear Polynomials

WORKSHEET -1

Multiple Choice Questions (MCQ)

1. What is the degree of a non-zero constant polynomial?

- (a) 0 (b) 1 (c) 2 (d) Not defined

2. Which of the following is a linear polynomial?

- (a) $x^2 + 2x$ (b) $3x + 4$ (c) $x^3 - 1$ (d) 4

3. What is the degree of the polynomial $p(x) = 4x^3 - 3x^2 + 2x - 7$?

- (a) 1 (b) 2 (c) 3 (d) 4

4. What is the coefficient of x^2 in the polynomial $5x^4 - 2x^2 + 7x - 9$?

- (a) 5 (b) -2 (c) 2 (d) 7

5. Find the value of the polynomial $p(x) = 3x - 5$ at $x = 2$.

- (a) 1 (b) -1 (c) 11 (d) 6

6. If $p(x) = x^2 - 4x + 4$, what is the value of $p(2)$?

- (a) 0 (b) 2 (c) 4 (d) 8

7. What is the y-intercept of the line given by the equation $y = 3x - 4$?

- (a) 3 (b) -4 (c) 4 (d) -3

8. What is the slope of the linear equation $y = -2x + 7$?

- (a) -2 (b) 2 (c) 7 (d) -7

9. The graph of a linear polynomial in two variables is a:

- (a) Parabola (b) Circle (c) Straight line (d) Ellipse

10. Which of the following points lies on the line $y = 2x + 1$?

- (a) (1, 2) (b) (2, 5) (c) (0, 0) (d) (-1, 1)

11. Two lines represented by the equations $y = 3x + 2$ and $y = 3x - 5$ are:

- (a) Intersecting lines (b) Parallel lines
(c) Perpendicular lines (d) Coincident lines

12. A polynomial of degree 2 is called a:

- (a) Linear polynomial (b) Quadratic polynomial
(c) Cubic polynomial (d) Constant polynomial

13. If $y = ax + b$ represents a straight line, what does 'a' represent?

- (a) y-intercept (b) x-intercept
(c) Slope (d) Origin

14. For the polynomial $p(y) = y^3 + 2y - 1$, what is the constant term?

- (a) 1 (b) -1 (c) 2 (d) 3

15. A matchstick pattern for a hexagon requires 6 sticks for the first and adds 5 sticks for each additional connected hexagon. What is the linear expression for n connected hexagons?

- (a) $6n$ (b) $5n + 1$ (c) $5n - 1$ (d) $6n + 1$

16. The present age of a father is twice that of his son. If the son's age is x years, the father's age is:

- (a) $x + 2$ (b) $x / 2$ (c) $2x$ (d) x^2

17. Write the equation $2y = 4x + 7$ in the form $y = ax + b$. What is the value of a ?

- (a) 4 (b) 2 (c) 7 (d) $7/2$

18. If a line is given by $3y = 6x - 12$, what is its y-intercept?

- (a) -12 (b) -4 (c) 2 (d) -6

19. Which of the following is a constant polynomial?

- (a) $x + 1$ (b) $2x$ (c) -9 (d) x^2

20. The difference between two positive numbers is 10 and their ratio is 3:1. What is the smaller number?

- (a) 5 (b) 15 (c) 10 (d) 20

21. Find the value of $p(s) = 7s^2 - 4s + 6$ at $s = 0$.

- (a) 0 (b) 7 (c) -4 (d) 6

22. The linear equation $y = 50x + 200$ represents a monthly internet bill where x is the GB of data used. What does 200 represent?

- (a) Cost per GB (b) Total bill
(c) Fixed monthly fee (d) Data limit

23. The coefficient of z in the polynomial $4z^3 + 5z^2 - 11$ is:

- (a) 4 (b) 5 (c) -11 (d) 0

24. At what point does the line $y = -3x + 6$ intersect the y -axis?

- (a) (0, 6) (b) (6, 0) (c) (0, -3) (d) (-3, 0)

25. The perimeter P of a square with side length x is given by $P = 4x$. This formula is an example of:

- (a) A quadratic polynomial (b) A constant polynomial
(c) A linear polynomial (d) A cubic polynomial

Answer Key

Question No.	Correct Answer
1	(a) 0
2	(b) $3x + 4$
3	(c) 3
4	(b) -2
5	(a) 1
6	(a) 0
7	(b) -4
8	(a) -2
9	(c) Straight line
10	(b) (2, 5)
11	(b) Parallel lines
12	(b) Quadratic polynomial
13	(c) Slope
14	(b) -1
15	(b) $5n + 1$
16	(c) $2x$
17	(b) 2
18	(b) -4
19	(c) -9
20	(a) 5
21	(d) 6
22	(c) Fixed monthly fee
23	(d) 0
24	(a) (0, 6)
25	(c) A linear polynomial