



GRADE 9TH MATHS
CHAPTER 2

Polynomials

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MULTIPLE-CHOICE QUESTIONS (MCQ)

Choose the correct answer in each of the following questions.

1. Which of the following expressions is a polynomial in one variable?

(a) $x + \frac{2}{x} + 3$

(b) $3\sqrt{x} + \frac{2}{\sqrt{x}} + 5$

(c) $\sqrt{2}x^2 - \sqrt{3}x + 6$

(d) $x^{10} + y^5 + 8$

2. Which of the following expressions is a polynomial?

(a) $\sqrt{x} - 1$

(b) $\frac{x-1}{x+1}$

(c) $x^2 - \frac{2}{x^2} + 5$

(d) $x^2 + \frac{2x^{3/2}}{\sqrt{x}} + 6$

3. Which of the following is a polynomial?

(a) $\sqrt[3]{y} + 4$

(b) $\sqrt{y} - 3$

(c) y

(d) $\frac{1}{\sqrt{y}} + 7$

4. Which of the following is a polynomial?

(a) $x - \frac{1}{x} + 2$

(b) $\frac{1}{x} + 5$

(c) $\sqrt{x} + 3$

(d) -4

5. Which of the following is a polynomial?

(a) $x^{-2} + x^{-1} + 3$

(b) $x + x^{-1} + 2$

(c) x^{-1}

(d) 0

6. Which of the following is a quadratic polynomial?

(a) $x + 4$

(b) $x^3 + x$

(c) $x^3 + 2x + 6$

(d) $x^2 + 5x + 4$

7. Which of the following is a linear polynomial?

(a) $x + x^2$

(b) $x + 1$

(c) $5x^2 - x + 3$

(d) $x + \frac{1}{x}$

8. Which of the following is a binomial?

(a) $x^2 + x + 3$

(b) $x^2 + 4$

(c) $2x^2$

(d) $x + 3 + \frac{1}{x}$

9. $\sqrt{3}$ is a polynomial of degree

(a) $\frac{1}{2}$

(b) 2

(c) 1

(d) 0



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10. Degree of the zero polynomial is
(a) 1 (b) 0 (c) not defined (d) none of these
11. Zero of the zero polynomial is
(a) 0 (b) 1
(c) every real number (d) not defined
12. If $p(x) = x + 4$ then $p(x) + p(-x) = ?$
(a) 0 (b) 4 (c) $2x$ (d) 8
13. If $p(x) = x^2 - 2\sqrt{2}x + 1$ then $p(2\sqrt{2}) = ?$
(a) 0 (b) 1 (c) $4\sqrt{2}$ (d) -1
14. If $p(x) = 5x - 4x^2 + 3$ then $p(-1) = ?$
(a) 2 (b) -2 (c) 6 (d) -6
15. If $(x^{51} + 51)$ is divided by $(x + 1)$ then the remainder is
(a) 0 (b) 1 (c) 49 (d) 50
16. If $(x + 1)$ is a factor of the polynomial $(2x^2 + kx)$ then $k = ?$
(a) 4 (b) -3 (c) 2 (d) -2
17. When $p(x) = x^4 + 2x^3 - 3x^2 + x - 1$ is divided by $(x - 2)$, the remainder is
(a) 0 (b) -1 (c) -15 (d) 21
18. When $p(x) = x^3 - 3x^2 + 4x + 32$ is divided by $(x + 2)$, the remainder is
(a) 0 (b) 32 (c) 36 (d) 4
19. When $p(x) = 4x^3 - 12x^2 + 11x - 5$ is divided by $(2x - 1)$, the remainder is
(a) 0 (b) -5 (c) -2 (d) 2
20. When $p(x) = x^3 - ax^2 + x$ is divided by $(x - a)$, the remainder is
(a) 0 (b) a (c) $2a$ (d) $3a$
21. When $p(x) = x^3 + ax^2 + 2x + a$ is divided by $(x + a)$, the remainder is
(a) 0 (b) a (c) $-a$ (d) $2a$

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22. $(x + 1)$ is a factor of the polynomial
- (a) $x^3 + x^2 - x + 1$ (b) $x^3 + 2x^2 - x - 2$
(c) $x^3 + 2x^2 - x + 2$ (d) $x^4 + x^3 + x^2 + 1$
23. Zero of the polynomial $p(x) = 2x + 5$ is
- (a) $-\frac{2}{5}$ (b) $-\frac{5}{2}$ (c) $\frac{2}{5}$ (d) $\frac{5}{2}$
24. The zeros of the polynomial $p(x) = x^2 + x - 6$ are
- (a) 2, 3 (b) -2, 3 (c) 2, -3 (d) -2, -3
25. The zeros of the polynomial $p(x) = 2x^2 + 5x - 3$ are
- (a) $\frac{1}{2}, 3$ (b) $\frac{1}{2}, -3$ (c) $-\frac{1}{2}, 3$ (d) $1, -\frac{1}{2}$
26. The zeros of the polynomial $p(x) = 2x^2 + 7x - 4$ are
- (a) $4, -\frac{1}{2}$ (b) $4, \frac{1}{2}$ (c) $-4, \frac{1}{2}$ (d) $-4, -\frac{1}{2}$
27. If $(x + 5)$ is a factor of $p(x) = x^3 - 20x + 5k$ then $k = ?$
- (a) -5 (b) 5 (c) 3 (d) -3
28. If $(x + 2)$ and $(x - 1)$ are factors of the polynomial $p(x) = x^3 + 10x^2 + mx + n$ then
- (a) $m = 5, n = -3$ (b) $m = 7, n = -18$
(c) $m = 17, n = -8$ (d) $m = 23, n = -19$
29. If $(x^{100} + 2x^{99} + k)$ is divisible by $(x + 1)$ then the value of k is
- (a) 1 (b) 2 (c) -2 (d) -3
30. For what value of k is the polynomial $p(x) = 2x^3 - kx^2 + 3x + 10$ exactly divisible by $(x + 2)$?
- (a) $-\frac{1}{3}$ (b) $\frac{1}{3}$ (c) 3 (d) -3
31. The zeros of the polynomial $p(x) = x^2 - 3x$ are
- (a) 0, 0 (b) 0, 3 (c) 0, -3 (d) 3, -3

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32. The zeros of the polynomial $p(x) = 3x^2 - 1$ are

- (a) $\frac{1}{3}$ and 3 (b) $\frac{1}{\sqrt{3}}$ and $\sqrt{3}$ (c) $\frac{-1}{\sqrt{3}}$ and $\sqrt{3}$ (d) $\frac{1}{\sqrt{3}}$ and $\frac{-1}{\sqrt{3}}$

ANSWERS (MCQ)

1. (c) 2. (d) 3. (c) 4. (d) 5. (d) 6. (d) 7. (b) 8. (b)
9. (d) 10. (c) 11. (d) 12. (d) 13. (b) 14. (d) 15. (d) 16. (c)
17. (d) 18. (d) 19. (c) 20. (b) 21. (c) 22. (b) 23. (b) 24. (c)
25. (b) 26. (c) 27. (b) 28. (b) 29. (a) 30. (d) 31. (b) 32. (d)