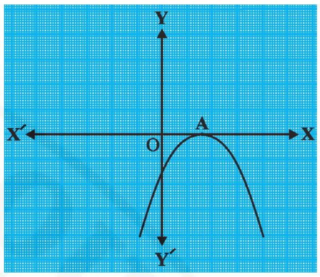
MCQ WORKSHEET-I
POLYNOMIALS

MATHEMATICS
10^{TH} CBSE

1. The value of k for which (–4) is a zero of the polynomial $x^2 - x - (2k + 2)$ is
   (a) 3 (b) 9 (c) 6 (d) –1

2. If the zeroes of the quadratic polynomial ax2 + bx + c, $c \neq 0$ are equal, then
   (a) c and a have opposite sign (b) c and b have opposite sign
   (c) c and a have the same sign (d) c and b have the same sign



3. The number of zeroes of the polynomial from the graph is
   (a) 0 (b) 1 (c) 2 (d) 3

4. If one of the zero of the quadratic polynomial $x^2 + 3x + k$ is 2, then the value of k is
   (a) 10 (b) –10 (c) 5 (d) –5

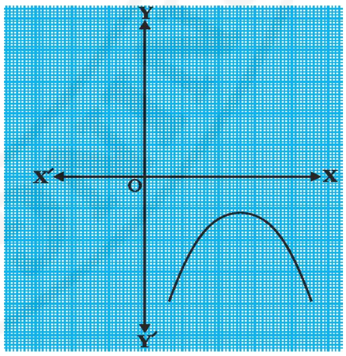
5. A quadratic polynomial whose zeroes are –3 and 4 is
   (a) $x^2 - x + 12$ (b) $x^2 + x + 12$ (c) $2x^2 + 2x - 24$. (d) none of the above.

6. The relationship between the zeroes and coefficients of the quadratic polynomial $ax^2 + bx + c$ is (a) $\alpha + \beta = \frac{c}{a}$ (b) $\alpha + \beta = \frac{-b}{a}$ (c) $\alpha + \beta = \frac{-c}{a}$ (d) $\alpha + \beta = \frac{b}{a}$

7. The zeroes of the polynomial $x^2 + 7x + 10$ are
   (a) 2 and 5 (b) –2 and 5 (c) –2 and –5 (d) 2 and –5

8. The relationship between the zeroes and coefficients of the quadratic polynomial $ax^2 + bx + c$ is (a) $\alpha . \beta = \frac{c}{a}$ (b) $\alpha . \beta = \frac{-b}{a}$ (c) $\alpha . \beta = \frac{-c}{a}$ (d) $\alpha . \beta = \frac{b}{a}$

9. The zeroes of the polynomial $x^2 - 3$ are
   (a) 2 and 5 (b) –2 and 5 (c) –2 and –5 (d) none of the above



10. The number of zeroes of the polynomial from the graph is
    (a) 0 (b) 1 (c) 2 (d) 3

11. A quadratic polynomial whose sum and product of zeroes are –3 and 2 is
    (a) $x^2 - 3x + 2$ (b) $x^2 + 3x + 2$ (c) $x^2 + 2x - 3$. (d) $x^2 + 2x + 3$.

12. The zeroes of the quadratic polynomial $x^2 + kx + k$, $k \neq 0$,
    (a) cannot both be positive (b) cannot both be negative
    (c) are always unequal (d) are always equal

1. If α, β are the zeroes of the polynomials f(x) = x^2 + x + 1, then $\frac{1}{\alpha}+\frac{1}{\beta}$
   (a) 0 (b) 1 (c) –1 (d) none of these

2. If one of the zero of the polynomial f(x) = (k^2 + 4)x^2 + 13x + 4k is reciprocal of the other then k =
   (a) 2 (b) 1 (c) –1 (d) – 2

3. If α, β are the zeroes of the polynomials f(x) = 4x^2 + 3x + 7, then $\frac{1}{\alpha}+\frac{1}{\beta}$
   (a) $\frac{7}{3}$ (b) $\frac{-7}{3}$ (c) $\frac{3}{7}$ (d) $\frac{-3}{7}$

4. If the sum of the zeroes of the polynomial f(x) = 2x^3 – 3kx^2 + 4x – 5 is 6, then value of k is
   (a) 2 (b) 4 (c) –2 (d) – 4

5. The zeroes of a polynomial $p(x)$ are precisely the x-coordinates of the points, where the graph of $y = p(x)$ intersects the
   (a) x – axis (b) y – axis (c) origin (d) none of the above

6. If α, β are the zeroes of the polynomials f(x) = x^2 – p(x + 1) – c, then $(\alpha+1)(\beta+1)$ =
   (a) c – 1 (b) 1 – c (c) c (d) 1 + c

7. A quadratic polynomial can have at most …….. zeroes
   (a) 0 (b) 1 (c) 2 (d) 3

8. A cubic polynomial can have at most …….. zeroes.
   (a) 0 (b) 1 (c) 2 (d) 3

9. Which are the zeroes of p(x) = x^2 – 1:
   (a) 1, –1 (b) – 1, 2 (c) –2, 2 (d) –3, 3

10. Which are the zeroes of p(x) = (x – 1)(x – 2):
    (a) 1, –2 (b) – 1, 2 (c) 1, 2 (d) –1, –2

11. Which of the following is a polynomial?
    $(a) x^2 - 5x + 3$
    $(b) \sqrt{x} + \frac{1}{\sqrt{x}}$
    $(c) x^{3/2} - x + x^{1/2}$
    $(d) x^{1/2} + x + 10$

12. Which of the following is not a polynomial?
    $(a) \sqrt{3}x^2 - 2\sqrt{3}x + 3$
    $(b) \frac{3}{2}x^3 - 5x^2 - \frac{1}{\sqrt{2}}x - 1$
    $(c) x + \frac{1}{x}$
    $(d) 5x^2 - 3x + \sqrt{2}$

MCQ WORKSHEET-III
POLYNOMIALS

1. If α, β are the zeroes of the polynomials f(x) = $x^2 + 5x + 8$, then $\alpha + \beta$
   (a) 5 (b) –5 (c) 8 (d) none of these

2. If α, β are the zeroes of the polynomials f(x) = $x^2 + 5x + 8$, then $\alpha . \beta$
   (a) 0 (b) 1 (c) –1 (d) none of these

3. On dividing $x^3 + 3x^2 + 3x + 1$ by $x + \pi$ we get remainder:
   $(a) -\pi^3 + 3\pi^2 - 3\pi + 1$
   $(b) \pi^3 - 3\pi^2 + 3\pi + 1$
   $(c) -\pi^3 - 3\pi^2 - 3\pi - 1$
   $(d) -\pi^3 + 3\pi^2 - 3\pi - 1$

4. The zero of p(x) = 9x + 4 is:
   (a) $\frac{4}{9}$ (b) $\frac{9}{4}$ (c) $\frac{-4}{9}$ (d) $\frac{-9}{4}$

5. On dividing $x^3 + 3x^2 + 3x + 1$ by 5 + 2x we get remainder:
   (a) $\frac{8}{27}$ (b) $\frac{-8}{27}$ (c) $\frac{-27}{8}$ (d) $\frac{27}{8}$

6. A quadratic polynomial whose sum and product of zeroes are –3 and 4 is
   (a) $x^2 - 3x + 12$ (b) $x^2 + 3x + 12$ (c) $2x^2 + x - 24$. (d) none of the above.

7. A quadratic polynomial whose zeroes are $\frac{3}{5}$ and $\frac{-1}{2}$ is
   (a) $10x^2 - x - 3$ (b) $10x^2 + x - 3$ (c) $10x^2 - x + 3$ (d) none of the above.

8. A quadratic polynomial whose sum and product of zeroes are 0 and 5 is
   (a) $x^2 - 5$ (b) $x^2 + 5$ (c) $x^2 + x - 5$. (d) none of the above.

9. A quadratic polynomial whose zeroes are 1 and –3 is
   (a) $x^2 - 2x - 3$ (b) $x^2 + 2x - 3$ (c) $x^2 - 2x + 3$ (d) none of the above.

10. A quadratic polynomial whose sum and product of zeroes are –5 and 6 is
    (a) $x^2 - 5x - 6$ (b) $x^2 + 5x - 6$ (c) $x^2 + 5x + 6$ (d) none of the above.

11. Which are the zeroes of p(x) = $x^2 + 3x - 10$:
    (a) 5, –2 (b) –5, 2 (c) –5, –2 (d) none of these

12. Which are the zeroes of p(x) = $6x^2 - 7x - 3$:
    (a) 5, –2 (b) –5, 2 (c) –5, –2 (d) none of these

13. Which are the zeroes of p(x) = $x^2 + 7x + 12$:
    (a) 4, –3 (b) –4, 3 (c) –4, –3 (d) none of these

1. The degree of the polynomial whose graph is given below:
(a) 1 (b) 2 (c) ≥ 3 (d) cannot be fixed

2. If the sum of the zeroes of the polynomial 3x2 – kx + 6 is 3, then the value of k is:
(a) 3 (b) –3 (c) 6 (d) 9

3. The other two zeroes of the polynomial x3 – 8x2 + 19x – 12 if tis one zeroes is x = 1 are:
(a) 3, –4 (b) –3, –4 (c) –3, 4 (d) 3, 4

4. The quadratic polynomial, the sum and product of whose zeroes are –3 and 2 is:
(a) $x^2 - 3x + 2$ (b) $x^2 + 3x - 2$ (c) $x^2 + 3x + 2$ (d) none of the these.

5. The third zero of the polynomial, if the sum and product of whose zeroes are –3 and 2 is:
(a) 7 (b) –7 (c) 14 (d) –14

6. If $\sqrt{\frac{5}{3}}$ and $-\sqrt{\frac{5}{3}}$ are two zeroes of the polynomial $3x^4 + 6x^3 - 2x^2 - 10x - 5$, then its other two zeroes are:
(a) –1, –1 (b) 1, –1 (c) 1, 1 (d) 3, –3

7. If a – b, a and a + b are zeroes of the polynomial $x^3 - 3x^2 + x + 1$ the value of (a + b) is
(a) $1 \pm \sqrt{2}$ (b) $-1 + \sqrt{2}$ (c) $-1 - \sqrt{2}$ (d) 3

8. A real numbers a is called a zero of the polynomial f(x), then
(a) f(a) = –1 (b) f(a) = 1 (c) f(a) = 0 (d) f(a) = –2

9. Which of the following is a polynomial:
(a) $x^2 + \frac{1}{x}$ (b) $2x^2 - 3\sqrt{x} + 1$ (c) $x^2 + x^{-2} + 7$ (d) $3x^2 - 3x + 1$

10. The product and sum of zeroes of the quadratic polynomial ax2 + bx + c respectively are:
(a) $\frac{b}{a}, \frac{c}{a}$ (b) $\frac{c}{a}, \frac{b}{a}$ (c) $\frac{c}{b}, 1$ (d) $\frac{c}{a}, \frac{-b}{a}$

11. The quadratic polynomial, sum and product of whose zeroes are 1 and –12 respectively is
(a) $x^2 - x - 12$ (b) $x^2 + x - 12$ (c) $x^2 - 12x + 1$ (d) $x^2 - 12x - 1$.

12. If the product of two of the zeroes of the polynomial $2x^3 - 9x^2 + 13x - 6$ is 2, the third zero of the polynomial is:
(a) –1 (b) –2 (c) $\frac{3}{2}$ (d) $-\frac{3}{2}$