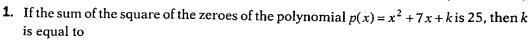
#### **CH 2 POLYNOMIALS**

### Multiple Choice Questions

(1 mark each)

THE VILLAGE



(a) 12

(b) 49

(c) -24

(d) - 12

**2.** Zeroes of a polynomial p(y) is...... of the point, where the graph intersects the Y-axis.

(a) abscissa

(b) ordinate

(c) Both (a) and (b)

(d) None of these

3. If -4 is a zero of the polynomial  $x^2 - 2x - (7m + 3)$ , then find the value of m.

(b) 2

(c) 4

(d) - 2

**4.** If the zeroes of polynomial  $x^2 - 8x + k$  are the HCF of (6, 12), then find the value of k.

(b) 12

(c) 24

(d) None of these

5. If a and b are the zeroes of a polynomial  $px^2 - 5x + q$ , then the values of p and q, if a + b = ab = 10, are

(a) 5 and 1/2

(b) 5 and 2

(c) 1/2 and 5

(d) 10 and 1

## short Answer Type (I) Questions

(2 marks each)

6. Find the quadratic polynomial, whose sum of zeroes is -3 and product of zeroes is 5.

7. If one of the zeroes of the quadratic polynomial  $f(x) = 4x^2 - 8kx - 9$  is equal in magnitude but opposite in sign of the other, then find the value of k.

8. Find the zeroes of the quadratic polynomial  $7y^2 - \frac{11}{3}y - \frac{2}{3}$  and verify the relationship between the zeroes and their coefficients.

**9.** Find the quadratic polynomial whose zeroes are  $2\sqrt{7}$  and  $-5\sqrt{7}$ .

### Short Answer Type (II) Questions

(3 marks each)

10. Find the value of k for which a - 3b is a factor of  $a^4 - 7a^2b^2 + kb^4$ . Hence, for the value of k, factorise  $a^4 - 7a^2b^2 + kb^4$  completely.

11. If  $\alpha$  and  $\beta$  be the zeroes of the polynomial  $P(x) = x^2 - 5x + 2$ , find the value of  $\frac{1}{\alpha} + \frac{1}{\beta} - 3\alpha\beta$ .

12. If  $\alpha$  and  $\beta$  are the zeroes of the polynomials  $ax^2 + bx + c$ , then find the other polynomial whose zeroes are  $\frac{\alpha^2}{\beta}$  and  $\frac{\beta^2}{\alpha}$ .

# **Long Answer Type Questions**

(5 marks each)

13. If  $\alpha$  and  $\beta$  are the zeroes of the quadratic polynomial  $f(x) = kx^2 + 4x + 4$ , such that  $\alpha^2 + \beta^2 = 24$ , then find the value(s) of k.

14. If  $\alpha$  and  $\beta$  are the zeroes of a quadratic polynomial  $3x^2 - 6x + 4$ , then find the value of

$$\left(\frac{\alpha}{\beta} + \frac{\beta}{\alpha}\right) + 2\left(\frac{1}{\alpha} + \frac{1}{\beta}\right) + 3\alpha\beta.$$

#### **Answers**

1. (a)

2. (b)

6.  $x^2 + 3x + 5$ 

**7.** k = 0

3. (a) 4. (b) 5 8.  $\frac{2}{3}$  and  $\frac{-1}{7}$  9.  $x^2 + 3\sqrt{7}x - 70$ 



10. k = -18 and  $(a+3b)(a-3b)(a^2+2b^2)$ 

12.  $x^2 + \frac{b}{a^2c}(b^2 - 3ac)x + \frac{c}{a}$ 

13.  $k = \frac{2}{3}$  or -1**14.** 8

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