POLYNOMIALS

VALUE AND ZEROES OF POLYNOMIAL

EXERCISE

Q.1 Find the value of a, if x – a is a factor of $x^3 - ax^2 + 2x + a - 1$.

Q.2 For what value of k, (–4) is a zero of the polynomial $x^2 - x - (2k + 2)$?

Q.3 For what value of p, (–4) is a zero of the polynomial $x^2 - 2x - (7p + 3)$?

Q.4 If 1 is a zero of the polynomial $p(x) = ax^2 - 3(a - 1)x - 1$, then find the value of a.

Q.5 Find the value of the polynomial $5x - 4x^2 + 3$ at:

(i) $x = 0$ (ii) $x = -1$

Q.6 Verify whether the indicated numbers are zeroes of the polynomial corresponding to them in the following cases :

(i) $p(x) = 3x + 1, x = -\frac{1}{3}$

(ii) $p(x) = (x + 1)(x - 2), x = -1, 2$

(iii) $p(x) = x^2, x = 0$

(iv) $p(x) = \lambda x + m, x = -\frac{m}{\ell}$

(v) $p(x) = 2x + 1, x = \frac{1}{2}$

Q.7 Find the zero of the polynomial in each of the following cases :

(i) $p(x) = x + 5$

(ii) $p(x) = 2x + 5$

(iii) $p(x) = 3x - 2$

Q.8 Find positive square root of $36x^2 + 60x + 25$

Q.9 $(x^2 + 4y)^2 + 21(x^2 + 4y) + 98$

ANSWER KEY

1. $a = \frac{1}{3}$

5. (i)3 (ii)– 6

6 (i) $x = -\frac{1}{3}$ (ii)$x = -1$ and $x = 2$

(iii)$x = 0$ (iv)$x = -\frac{m}{\ell}$

(v)$x = \frac{1}{2}$

7 (i)$x = -5$

(ii)$x = \frac{-5}{2}$

(iii)$x = \frac{2}{3}$

8. $6x + 5$

9. $(x^2 + 4y + 7)\ (x^2 + 4y + 14)$