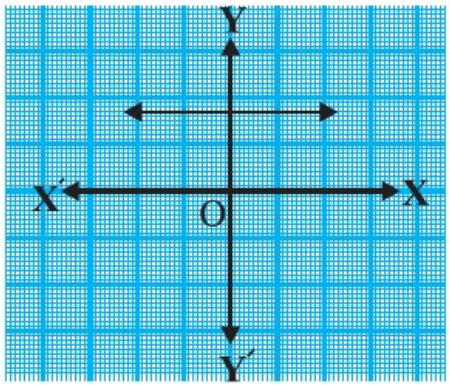
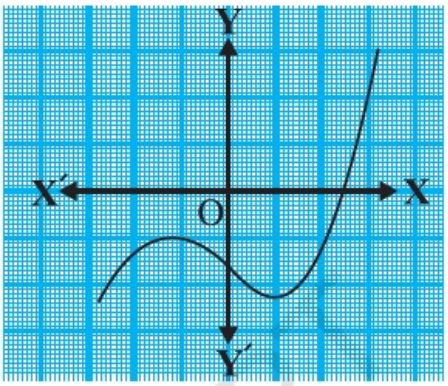
MATHS – Class 10th
Chapter 02 - POLYNOMIALS
Practice Question Paper

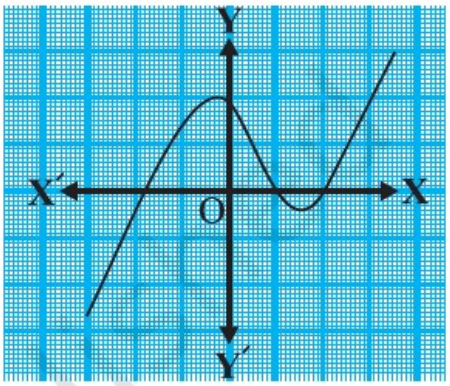
Q1. The graphs of $y = p(x)$ are given below, for some polynomials $p(x)$. Find the number of zeroes of $p(x)$, in each case.



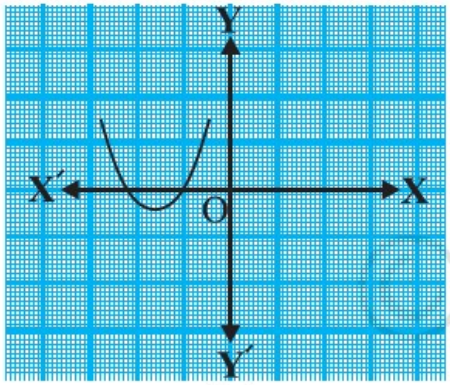
(i)



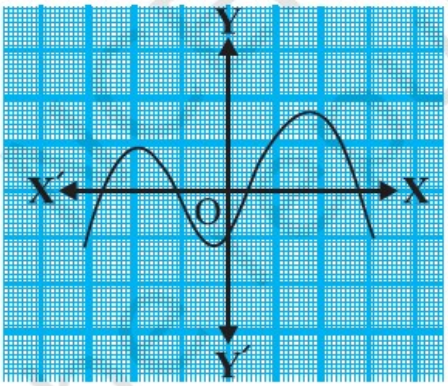
(ii)



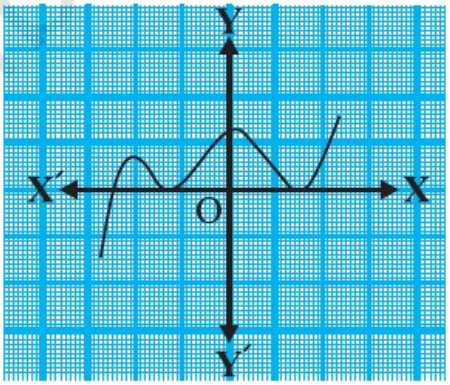
(iii)



(iv)



(v)



(vi)

Q2: Find the zeroes of the quadratic polynomial $x^2 + 7x + 10$, and verify the relationship between the zeroes and the coefficients.

Q3: Find the zeroes of the polynomial $x^2 - 3$ and verify the relationship between the zeroes and the coefficients.

Q4: Find a quadratic polynomial, the sum and product of whose zeroes are – 3 and 2, respectively.

Q6. Find the zeroes of the following quadratic polynomials and verify the relationship between the zeroes and the coefficients.

(i) $x^2 - 2x - 8$ (ii) $4s^2 - 4s + 1$ (iii) $6x^2 - 3 - 7x$

(iv) $4u^2 + 8u$ (v) $t^2 - 15$ (vi) $3x^2 - x - 4$

Q7. Find a quadratic polynomial each with the given numbers as the sum and product of its zeroes respectively.

(i) $\frac{1}{4}, -1$ (ii) $\sqrt{2}, \frac{1}{3}$ (iii) $0, \sqrt{5}$

(iv) $1, 1$ (v) $-\frac{1}{4}, \frac{1}{4}$ (vi) $4, 1$

Some important points to note:

1. If α and β are the zeroes of the quadratic polynomial $p(x) = ax^2 + bx + c$, $a \neq 0$, then you know that $\mathbf{x - \alpha}$ and $\mathbf{x - \beta}$ are the factors of $p(x)$. Therefore $ax^2 + bx + c = k(x - \alpha)(x - \beta)$, where k is a constant.

2. $k[x^2 - (\alpha + \beta)x + \alpha\beta]$

3. $$\alpha + \beta = \frac{-b}{a},$$

   $$\alpha\beta = \frac{c}{a}$$