

# Mathematics

(www.tiwariacademy.net)

(Chapter – 2) (Polynomials)(Exemplar Problems)

(Class – IX)

## Exercise 2.3

### Question 8:

If  $p(x) = x^2 - 4x + 3$ , evaluate:  $p(2) - p(-1) + p\left(\frac{1}{2}\right)$ .

### Answer 8:

Given that:  $p(x) = x^2 - 4x + 3$

So

$$\begin{aligned} p(2) &= (2)^2 - 4(2) + 3 \\ &= 4 - 8 + 3 \\ &= 7 - 8 \\ &= -1 \end{aligned}$$

$$\begin{aligned} p(-1) &= (-1)^2 - 4(-1) + 3 \\ &= 1 + 4 + 3 \\ &= 8 \end{aligned}$$

$$\begin{aligned} p\left(\frac{1}{2}\right) &= \left(\frac{1}{2}\right)^2 - 4\left(\frac{1}{2}\right) + 3 \\ &= \frac{1}{4} - 2 + 3 \\ &= \frac{1}{4} + 1 = \frac{5}{4} \end{aligned}$$

Now,

$$\begin{aligned} p(2) - p(-1) + p\left(\frac{1}{2}\right) \\ &= -1 - 8 + \frac{5}{4} \\ &= -9 + \frac{5}{4} \\ &= \frac{-36 + 5}{4} = -\frac{31}{4} \end{aligned}$$

