

Ex 4.3

NCERT Solutions by Dev Anoop (Bathinda)

$$1(i) \quad 4x^2 + 4\sqrt{3}x + 3 = 0$$

$$\Rightarrow (2x)^2 + 2 \times 2x \times \sqrt{3} + (\sqrt{3})^2 - (\sqrt{3})^2 + 3 = 0$$

$$\Rightarrow (2x + \sqrt{3})^2 - 3 + 3 = 0$$

$$\Rightarrow (2x + \sqrt{3})^2 = 0$$

$$\Rightarrow 2x + \sqrt{3} = 0, \quad 2x + \sqrt{3} = 0$$

$$\Rightarrow 2x = -\sqrt{3}, \quad 2x = -\sqrt{3}$$

$$\Rightarrow x = -\frac{\sqrt{3}}{2}, \quad x = -\frac{\sqrt{3}}{2}$$

\therefore roots are $-\frac{\sqrt{3}}{2}, -\frac{\sqrt{3}}{2}$

$$1(ii) \quad 2x^2 + x + 4 = 0$$

$$(x2) \quad 4x^2 + 2x + 8 = 0$$

$$\Rightarrow (2x)^2 + 2 \times 2x \times \frac{1}{2} + \left(\frac{1}{2}\right)^2 - \left(\frac{1}{2}\right)^2 + 8 = 0$$

$$\Rightarrow \left(2x + \frac{1}{2}\right)^2 - \frac{1}{4} + 8 = 0$$

$$\Rightarrow \left(2x + \frac{1}{2}\right)^2 = \frac{1}{4} - 8$$

$$\Rightarrow \left(2x + \frac{1}{2}\right)^2 = \frac{1 - 32}{4}$$

$$\Rightarrow \left(2x + \frac{1}{2}\right)^2 = -\frac{31}{4}$$

no real roots

\therefore Square of
a no./ polynomial
cannot be -ve

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