STD – 9 MATHS

CHAPTER - 2

polynomials

EXERCISE - 2.3 Q:1

1. Find the remainder when $x^3 + 3x^2 + 3x + 1$ is divided by

(i)
$$X + 1$$

$$> x + 1 = 0$$

$$\Rightarrow x = -1$$

$$p(-1) = (-1)^3 + 3(-1)^2 + 3(-1) + 1$$
$$= -1 + 3 - 3 + 1$$
$$= 0$$

(ii)
$$X_{\frac{1}{2}}^{-1}$$

$$> X \frac{-1}{2} = 0$$

$$\Rightarrow x = \frac{1}{2}$$

$$= p(\frac{1}{2}) = (\frac{1}{2})^3 + 3(\frac{1}{2})^2 + 3(\frac{1}{2}) + 1$$

$$= (\frac{1}{8}) + (\frac{3}{4}) + (\frac{3}{2}) + 1$$

$$=\frac{27}{8}$$

(iii) x

$$> X = 0$$

$$p(0) = (0)^3 + 3(0)^2 + 3(0) + 1$$
$$= 1$$

(iv)
$$X + \pi$$

$$\triangleright x + \pi$$

$$= 0$$

$$\Rightarrow$$
 x = - π

$$p(0) = (-\pi)^3 + 3(-\pi)^2 + 3(-\pi) + 1$$
$$= -\pi^3 + 3\pi^2 - 3\pi + 1$$

$$(v) 5 + 2x$$

$$>$$
 5 + 2x = 0

$$2x = -5$$

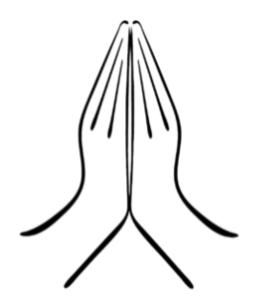
$$\Rightarrow x = \frac{-5}{2}$$

$$= (\frac{-5}{2})^3 + 3(\frac{-5}{2})^2 + 3(\frac{-5}{2}) + 1$$

$$= (\frac{-125}{8}) + (\frac{75}{4}) - (\frac{15}{2}) + 1$$

$$=\frac{-27}{8}$$

Thanks



For watching