STD - 9 MATHS

CHAPTER - 2

polynomials

EXERCISE - 2.3 Q: 2,3

2. Find the remainder when x³- ax² + 6x - a is divided by

let
$$p(x) = x^3 - ax^2 + 6x - a$$

$$x - a = 0$$

$$x = a$$

Remainder:

$$p(a) = (a)^{3} - a(a^{2}) + 6(a) - a$$
$$= a^{3} - a^{3} + 6a - a$$
$$= 5a$$

3. Check whether 7 + 3x is a factor of $3x^3 + 7x$.

$$7 + 3x = 0$$

$$\Rightarrow$$
 3x = -7

$$\Rightarrow x = \frac{-7}{3}$$

∴ Remainder:

$$3(\frac{-7}{3})^3 + 7(\frac{-7}{3}) = -(\frac{343}{9}) + (\frac{-49}{3})$$

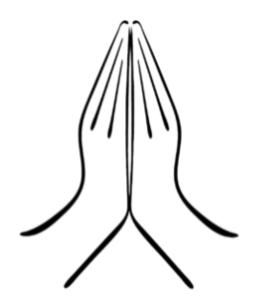
$$=\frac{(-343-(49)3)}{9}$$

$$=\frac{(-343-147)}{9}$$

$$=\frac{-490}{9}\neq 0$$

 \therefore 7 + 3x is not a factor of $3x^3 + 7x$

Thanks



For watching