STD – 9 MATHS

CHAPTER - 2

polynomials

EXERCISE - 2.1 Q:4,5

#### 4. Write the degree of each of the following polynomials:

- (i)  $5x^3 + 4x^2 + 7x$
- ➤ The highest power of the variable in a polynomial is the degree of the polynomial.
- $\triangleright$  Here,  $5x^3 + 4x^2 + 7x = 5x^3 + 4x^2 + 7x^1$
- > The powers of the variable x are: 3, 2, 1
- ∴ the degree of 5x³ + 4x² + 7x is 3 as 3 is the highest power of x in the equation.

#### (ii) 4-y<sup>2</sup>

- ➤ The highest power of the variable in a polynomial is the degree of the polynomial.
- ➤ Here, in 4-y²,
- > The power of the variable y is 2.
- ∴ the degree of 4 y² is 2 as 2 is the highest power of y in the equation.

#### (iii) 5t - √7

- > The highest power of the variable in a polynomial is the degree of the polynomial.
- $\triangleright$  Here, in 5t  $\sqrt{7}$ ,
- > The power of the variable t is: 1
- ∴ the degree of 5t  $\sqrt{7}$  is 1 as 1 is the highest power of t in the equation.

#### (iv) 3

➤ The highest power of the variable in a polynomial is the degree of the polynomial.

- $\triangleright$  Here,  $3 = 3 \times 1 = 3 \times x^{\circ}$
- > The power of the variable here is: 0
- ∴ the degree of 3 is 0.

## 5. Classify the following as linear, quadratic and cubic polynomials:

- > We know that,
- ➤ Linear polynomial : A polynomial of degree one is called a linear polynomial.
- Quadratic polynomial : A polynomial of degree two is called a quadratic polynomial.
- Cubic polynomial : A polynomial of degree three is called a cubic polynomial.

(i) 
$$X^2 + X$$

- $\triangleright$  The highest power of  $x^2 + x$  is 2
- ∴ the degree is 2
- > Hence, x² + x is a quadratic polynomial.

(ii) 
$$x - x^3$$

- > The highest power of x-x³ is 3
- ∴ the degree is 3
- ➤ Hence, x-x³ is a cubic polynomial.

(iii) 
$$Y + y^2 + 4$$

- $\triangleright$  The highest power of y + y<sup>2</sup> + 4 is 2
- ∴ the degree is 2
- ➤ Hence, y + y² + 4 is a quadratic polynomial.

(iv) 
$$1 + x$$

- > The highest power of 1 + x is 1
- ∴ the degree is 1
- > Hence, 1 + x is a linear polynomial.

#### (v) 3t

- > The highest power of 3t is 1
- ∴ the degree is 1
- > Hence, 3t is a linear polynomial.

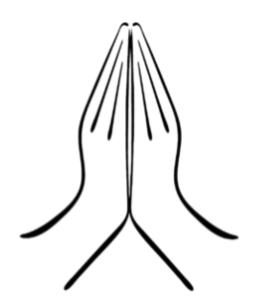
#### (vi) r<sup>2</sup>

- > The highest power of r<sup>2</sup> is 2
- ∴ the degree is 2
- > Hence, r<sup>2</sup> is a quadratic polynomial.

#### (vii) 7x<sup>3</sup>

- $\triangleright$  The highest power of  $7x^3$  is 3
- ∴ the degree is 3
- ➤ Hence, 7x³ is a cubic polynomial.

### Thanks



# For watching