

STD – 9

MATHS

CHAPTER - 2

polynomials

EXERCISE – 2.1 Q:1

1. Which of the following expressions are polynomials in one variable and which are not? State reasons for your answer.

(i) $4x^2 - 3x + 7$

- **The equation $4x^2 - 3x + 7$ can be written as $4x^2 - 3x^1 + 7x^0$**
- **Since x is the only variable in the given equation and the powers of x (i.e., 2, 1 and 0) are whole numbers, we can say that the expression $4x^2 - 3x + 7$ is a polynomial in one variable.**

(ii) $y^2 + \sqrt{2}$

- **The equation $y^2 + \sqrt{2}$ can be written as $y^2 + \sqrt{2}y^0$**
- **Since y is the only variable in the given equation and the powers of y (i.e., 2 and 0) are whole numbers, we can say that the expression $y^2 + \sqrt{2}$ is a polynomial in one variable.**

(iii) $3\sqrt{t} + t\sqrt{2}$

- **The equation $3\sqrt{t} + t\sqrt{2}$ can be written as $3t^{\frac{1}{2}} + \sqrt{2}t$**
- **Though, t is the only variable in the given equation, the powers of t (i.e., $\frac{1}{2}$) is not a whole number.**
- **Hence, we can say that the expression $3\sqrt{t} + t\sqrt{2}$ is not a polynomial in one variable.**

(iv) $Y + \frac{2}{y}$

- **The equation $Y + \frac{2}{y}$ can be written as $y + 2y^{-1}$**
- **Though, y is the only variable in the given equation, the powers of y (i.e., -1) is not a whole number.**
- **Hence, we can say that the expression $Y + \frac{2}{y}$ is not a polynomial in one variable.**

(v) $x^{10} + y^3 + t^{50}$

- **Here, in the equation $x^{10} + y^3 + t^{50}$**
- **Though, the powers, 10, 3, 50, are whole numbers, there are 3 variables used in the expression $x^{10} + y^3 + t^{50}$.**
- **Hence, it is not a polynomial in one variable.**

Thanks



For watching