# Class 8th

## Unit 5

## Excercise 5.1
## (Solution)

1. Write the constants given in the expression.

(i) $3x + 4$
Constants are 3, 4

(ii) $2x^3 - 1$
Constants = 2, 3, 1

(iii) $5y + 2x$
Constants = 5, 2

(iv) $7y^2 - 8$
Constants = 7, 2, 8

2. Write the variables taken in the equations.

(i) $2x - 1 = 0$
variable $= x$

(ii) $y + x = 3$
variables = $x$ and $y$

(iii) $x^2 - x - 1 = 0$
variable $= x$

(iv) $7y^2 - 2y + 3 = 0$
Variable $= y$

3. Write the literals used in equations

(i) $ax^2 + bx + c - y = 0$

literals = a, b, c

(ii) $cx^2 + dx = 0$

literals = c, d

(iii) $bx + d = 0$

literals = b, d

(iv) $ay^2 + d = 0$

literals = a, d

4. Separate the polynomial expressions and expressions that are not polynomial.

Polynomial : Condition for polynomial is powers of variable should be positive or whole number.

| Polynomial | Not polynomial |
|---|---|
| $x^2 + x - 1$ | $x^{-2} + y + 7$ |
| $x^2y + xy^2 + 7$ | $\frac{x}{y^2} + 1 - \frac{y^2}{x}$ |
| $x^3 - x^2 + y - 1$ | $x^4 + x^2 + 5x + \frac{1}{2}$ |

5. What constants are used in the following expressions.

| | Constants |
|---|---|
| (i) $7x - 6y + 3y = 0$ | 7, 6, 3 |
| (ii) $5x^2 - 3$ | 5, 2, 3 |
| (iii) $8x^2 + 2y + 5$ | 8, 2, 5 |
| (iv) $9y + 3x - 2z$ | 9, 3, 2 |

6. Write the degree of the polynomial

Degree:
Highest powers of individual term.

| | Degree |
|---|---|
| (i) $x + 1$ | 1 |
| (ii) $x^2 + x$ | 2 |
| (iii) $x^3 - xy + 1$ | 3 |
| (iv) $x^2y^2 + x^3 + y^2 = 1$ | 4 |

$\underbrace{2+2=4}$ (powes add)

7. Separate the polynomial as linear, quadratic, cubic and biquadratic.

Linear — degree = 1
Quadratic — degree = 2
cubic — degree = 3
Biquadratic — degree = 4

(i) $3x+1$
degree = 1 Linear

(ii) $x^2-2$
degree = 2 Quadratic

(iii) $y^2-y$
degree = 2 Quadratic

(iv) $x+y$
degree = 1 Lineal

(v) $x^3+x^2-2$
degree = 3 Cubic

(vi) $x^4+x^3+x^2$
degree = 4 Biquadratic

(vii) $x^2y^2+xy$
degree = 4 Biquadratic

(viii) $x^2+xy+8$
degree = 2 Quadratic