## Algebraic Expressions



Algebraic Expression: -> Combination of constants and variables connected by operators ( +, O, &, ÷). with terms (22) and (

with terms (22) and 
$$\frac{5}{-7c}$$
(iii)  $\frac{5a + 3b - 7c}{5a}$  (5a) (3b) and  $\frac{-7c}{-7c}$ 

Term: Vorious parts of expression separated by (+) or (-) sing sign.

Tird ro. of terms in the given algebraic exp.

(i) 32-5y+3a

=> a + 5y + 6x

(II) 2xy + 3yz + 5zx + 4xyz
4+nms

Types et algebraic expression

Moromial:

expression with lone term.

eg: 42², 3a, 116, 18, 0

@ Biromial: expressions with aly two terms.

1 1+3 , 5-2x , 3a+4y 2xy-5xy nota binomial.

(11) Trinomial: anly 3 terms.

## x+3+y, Till + 7x - 4y, 5xy - 3ab + 7xb.

| Sx - 2x + y | not a trinomial. © EKADEMY |

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Poly nomí al general to name to represent algebraic expressions a + 3 + 1 + d + e 2 5 terms poly nomi el.

Factors and Coefficient:

$$\underbrace{-\frac{3y}{4x^2}}_{+} + \underbrace{-\frac{3y}{4x}}_{-}$$

3 terms:

Constant term:

term without a literal factor.

592-27+2-9+7

No. of terms: 4 5y2-3y +x+2 5y2-3y+1x+7 refficient of x is 1 (reflicient of y is =3

Unlike not having some literal factors (veriables) Terms having some literal factors (or variables)

Value 
$$(i)$$
  $a^{2} + b^{2} + 2ab$   
 $\Rightarrow (y^{2} + (i)^{2} + 2(1)(2)$ 

$$= (1)^{2} + (1)^{2} + (-1)^{2} - 2 - (-1) - (-1)$$

Q. Evaluate the following algebraic expressions for z=z, y=-3, z=-z, a=z, b=3;

(i) 
$$2a^{2} + x^{2} - y^{2}$$
 (ii)  $x^{3} - y^{3} + z^{3}$  (iii)  $x^{3} + y^{3} + 3xyz + ab$ 

$$\begin{array}{ll} =) & 8 - (-17) + (-8) \\ =) & 8 + 27 - 8 \end{array}$$

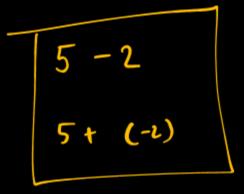
## Operations on Algebraic Expressions

JYZ = K

Addition and Subtraction

Ex. Ald 4ry, 12ry and 3rg

( arb)



(3) 
$$3(x^2+y^2) + 2(x^2+y^2)$$

$$3(x^{2}+y^{2}) = \frac{3x^{2}+3y^{2}}{2}$$

Add yny, 8 ny and - 2 nzy Tonly

$$\frac{8}{5x^{4}-7x^{3}-3x+4}.\frac{4x^{4}-3x^{3}+6x^{2}}{(7x^{4}+2x^{3}+6x-3)}$$
 and  $-3x^{4}-5x^{2}+2x$ 

$$x^{4} + x^{3} + x^{1} + 6x - 3 - (5x^{4} - 7x^{3} - 3x + 4)$$

$$= -4x^{2} + 8x^{3} + x^{2} + 9x - 7$$

Subtract

Q. Sabbad 5x from 9x 9x - 5x

42

Q. What should be added to a2+2ab+b2 to obtain

=) Required expression would be:

1. How much is Lat-7a+5 less than a3-3a2+La-3?

$$\sqrt{a^3-5a^2+9a-8}$$

$$\left(-2n\right)$$

322 - 442 + 3xy - {x2 - (x2 - 3y) - 4yz - 7z} 322 - 442 + 3xy - {1/2 - 1/2 + 3y - 442-72} = 3x2 - 4y2 + 3xy - {3y - 4y2 -72}

$$2 (4-3n)$$
=> 8-6x
$$-2 (4-3n)$$
=> 8+6n
$$-1(4-3n)$$

$$-(4-3n)$$

Simplify 14 (a2+6+ + Lab) - [4 (a2+62-2ab) - {-63+4 (a-3)}], and find the value of the expression when  $\alpha = 3$  and b = 1. = 4a2 + 4b2 + 8ab - [4a2 + 4b2 - 80b - {-b3 + 4a - 12}] = 4a2+462+8kb-[4a2+462-9006+63-4a+12] = 42x+46x+80b-42x-46x+80b-b3+40-12 Standard form = 16ab - 53 + 4a - 12 - - b + 16 ab +4a -12 50, -13+ 16x 3x1+4x5-12 = -1 + 48

= 47

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Inear Equations in One Variable

$$4+5 = 14$$
  
 $2x(3+7) = 2x3 + 2x7$ 

Mone of them involves a variable (diteral)

· 3 added ton is 8.

## End of the Chapter

