

# JSUNIL TUTORIAL , SAMASTIPUR

Algebraic equations

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- Write each in product form:- (a)  $4a^3$  (b)  $10x^3y^3z^2$  (c)  $7p^2q^2$
- Write in exponential form:-  
(a)  $17 \times b \times b \times c \times c \times c$  (b)  $13 \times p \times q \times q \times q \times r \times r$  (c)  $7 \times a \times a \times a \times \dots \times a$  - - - - - 17 times
- Add: - (a)  $17x^2 + 2y^2 + 3xy$ ,  $-9x^2 + 11y^2 - 3xy$  and  $12x^2 - 7y^2 + 6xy$   
(b)  $-a^2 + b^2 - 2abc$ ,  $-3a^2 - 2b^2 + 4abc$  and  $4a^2 + 3b^2 - 4abc$
- Subtract  
(a)  $6x^2 - 6y^2 + 7xy$  from 0 (b)  $7x - 3y$  from  $7x + 3y$  (c)  $-6x^2 + 7y^2 + 2xy$  from  $6x^2 - 7y^2 - 3xy$
- Identify the like terms in  $x^2y^3z$ ;  $xyz$ ;  $-y^3zx^2$ ;  $-2xyz$
- If  $A = -2l + 6m - 3p$ ;  $B = l - m + 2p$  then find  $2B - 3A$
- Subtract (i)  $7x + 2y - 7z$  from  $-1$  (ii)  $-2a + b + 6d$  from  $5a - 2 - 3c$
- From the sum of  $3x^2 - 5x + 2$  and  $-5x^2 - 8x + 6$  subtract  $4x^2 - 9x + 7$
- Subtract the sum of  $3l + 2m - p$ ;  $2l - 4m + p$ ;  $-6l + m$  from 0
- From the sum of  $-a + b - 3c$ ;  $2a + b - c$ ;  $1a - 4b + 5c$ ;  $2a - 6b + c$  subtract  $-a - b - c$
- Simplify the expressions (i)  $3y(2y - 7) - 3(y - 4) - 63$  (ii)  $5y(3y^2 + 5y - 11) + 3(y^3 - 4y^2 + 6)$
- Add the following.  
(i)  $a - b - bc$ ,  $bc - ca$ ,  $ca - a - b$  (ii)  $a - b + ab$ ,  $b - c + bc$ ,  $c - a + ac$
- Simplify  
(i)  $(2x^3 - 3x^2 + 7x - 8) + (-5x^3 + 2x^2 - 4x + 1) + (3 - 6x + 5x^2 - x^3)$  (ii)  $2p^3 - 3p^2 + 4p - 5 - 6p^3 + 2p^2 - 8p - 2 + 6p + 8$
- How much does 1 exceed  $2x - 3y - 4$ ?
- How much less than  $x - 2y + 3z$  is  $2x - 4y - z$ ?
- What must be subtracted from  $a^3 - 2x^2 + 5a - 6$  to obtain  $a^2 - 2a + 1$ ?
- Simplify  $2P^3 - 3p^2 + 4p - 5 - 6P^3 + 2p^2 + 8p - 2 + 6p + 8$
- Subtract  $x^3 + 2x^2y + 6xy^2 - y^3$  from  $y^3 - 3xy^2 - 4xy^2$
- How much is  $a + 2b - 3c$  greater than  $2a - 3b + c$ ?
- $2a - [4b - \{4a - (3b - \overline{2a + 2b})\}]$
- $5a - [a^2 - \{2a(1 - a + 4a^2) - 3a(a^2 - 5a - 3)\}] - 8a$
- $-x + [5y - \{x - (5y - 2x)\}]$
- $2a - [3b - \{a - (2c - 3b) + 4c - (a - b - 2c)\}]$
- $-3(a + b) + 4(2a - 3b) - (2a - b)$
- $-a - [a + \{a + b - 2a - (a - 2b)\} - b]$

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