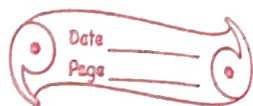


H.W.  
3/8/2021

CH-19

Ex-19B



1. Find the sum of:

(i)  $3a + 4b + 7c$ ,  $-5a + 3b - 6c$  and  $4a - 2b - 4c$

Ans  $(3a + 4b + 7c) + (-5a + 3b - 6c) + (4a - 2b - 4c)$

$$3a - 5a + 4a + 4b + 3b - 2b + 7c - 6c - 4c$$

$$2a + 5b - 3c$$

(ii)  $2x^2 + xy - y^2$ ,  $-x^2 + 2xy + 3y^2$  and  $3x^2 - 10xy + 4y^2$

$$(2x^2 + xy - y^2) + (-x^2 + 2xy + 3y^2) + (3x^2 - 10xy + 4y^2)$$

$$4x^2 - x^2 + 3x^2 + xy + 2xy - 10xy + -y^2 + 3y^2 + 4y^2$$

$$4x^2 - 7xy + 6y^2$$

(iii)  $x^2 - x + 1$ ,  $-5x^2 + 2x - 2$  and  $3x^2 - 3x + 1$ .

$$(x^2 - x + 1) + (-5x^2 + 2x - 2) + (3x^2 - 3x + 1)$$

$$x^2 - 5x^2 + 3x^2 - x + 2x - 3x + 1 - 2 + 1$$

$$-x^2 - 2x + 0$$



(iv)  $a^2 - ab + bc$ ,  $2ab + bc - 2a^2$  and  $-3bc + 3a^2 + ab$

$$(a^2 - ab + bc) + (2ab + bc - 2a^2) + (-3bc + 3a^2 + ab)$$

$$a^2 - 2a^2 + 3a^2 + -ab + 2ab + ab + bc + bc - 3bc$$

$$2a^2 + 2ab - bc$$

(v)  $4x^2 + 7 - 3x$ ,  $4x - x^2 + 8$  and  $-10 + 5x - 2x^2$

$$(4x^2 + 7 - 3x) + (4x - x^2 + 8) + (-10 + 5x - 2x^2)$$

$$4x^2 - x^2 - 2x^2 + 7 + 8 - 10 + 3x + 4x + 5x$$

$$-x^2 - 5 + 6x$$

(vi)  $3x + 4xy - y^2$ ,  $xy - 4x + 2y^2$  and  $3y^2 - xy + 6x$

$$(3x + 4xy - y^2) + (xy - 4x + 2y^2) + (3y^2 - xy + 6x)$$

$$3x - 4x + 6x + 4xy + xy - xy + y^2 + 2y^2 + 3y^2$$

$$5x + 4xy + 4y^2$$

2. Add the following expressions:

(i)  $-12x^2 - 2xy + 23y^2$ ,  $-9y^2 + 15x^2 + 7xy$  and

$$13x^2 + 3y^2 - 4xy$$

$$\text{Ans} \rightarrow (-12x^2 - 2xy + 23y^2) + (-9y^2 + 15x^2 + 7xy) \\ + (13x^2 + 3y^2 - 4xy)$$

$$(-12x^2 + 15x^2 + 13x^2) + (-2xy + 7xy - 4xy +$$

$$23y^2 - 9y^2 + 3y^2$$

$$11x^2 + xy + 17y^2$$

(ii)  $-x^2 - 3xy + 3y^2 + 8$ ,  $3x^2 - 5y^2 - 3 + 4xy$  and  $-6xy + 2x^2 - 2y^2$

$$(-x^2 - 3xy + 3y^2 + 8) + ($$

$$3x^2 - 5y^2 - 3 + 4xy) + (-6xy + 2x^2 - 2y^2)$$

$$(-6xy + 2x^2 - 2y^2)$$

$$-x^2 + 3x^2 + 2x^2 + (-3xy + 4xy - 6xy + 3y^2 - 5y^2 + y^2$$

$$+ 8 - 3 - 2$$

$$4x^2 - 5xy - y^2 + 3$$

(iii)  $a^3 - 2b^3 + a$ ,  $b^3 - 2a^3 + b$  and  $-2b + 2b^3 - 5a + 4a^3$

$$\text{Ans} \rightarrow (a^3 - 2b^3 + a) + (b^3 - 2a^3 + b) + (-2b + 2b^3 - 5a + 4a^3)$$

$$(a^3 - 2a^3 + 4a^3) + (-2b^3 + b^3 + 2b^3) + a - 5a + b - 2b$$

$$3a^3 + b^3 - 4a - b$$

3. Evaluate

(i)  $3a - (a + 2b)$

$$3a - a - 2b$$

$$= 2a - 2b$$

(ii)  $(5x - 3y) - (x + y)$

Ans  $\rightarrow 5x - 3y - x - y$

$$4x - 4y$$

(iii)  $(8a + 15b) - (3b - 7a)$

Ans  $\rightarrow 8a + 15b - 3b + 7a$

$$= 15a + 12b$$

(iv)  $(8x + 7y) - (4y - 3x)$

Ans  $\rightarrow 8x + 7y - 4y + 3x$

$$= 11x + 3y$$

(v)  $7 - (4a - 5)$

Ans  $\rightarrow 7 - 4a + 5$

$$= 12 - 4a$$

$$(vi) (6y - 13) - (4 - 7y)$$

$$\text{Ans } 6y - 13 - 4 + 7y$$

$$= 13y - 17$$