$y^2 = 2$
$x^3 = 3$
$y^2 = 2$
$x^7 \cdot (1) = 7$

Ch-19 Ex-19(A)

1. Fill in the blanks:

(i) $5+4 = 9$ and $5x+4x = 9x$

(ii) $12+18 = 30$ and $12x^2y + 18x^2y = 30x^2y$

(iii) $7+16 = 23$ and $7a+16b = 7a+16b$

(iv) $1+3 = 4$ and $x^2y + 3xy^2 = x^2y + 3xy^2$

(v) $7-4 = 3$ and $7ab - 4ab = 3ab$

(vi) $12-5 = 7$ and $12x - 5y = 12x - 5y$

(vii) $35-16 = 19$ and $35ab - 16ba = 19ab$ or $19ba$

(viii) $28-13 = 15$ and $28ax^2 - 13a^2x = 28ax^2 - 13a^2x$

2. Fill in the blanks:

(i) The sum of -2 and $-5 = -7$ and the sum of $-2x$ and $-5x$ is $-7x$

(ii) The sum of 8 and $-3 = 5$ and the sum of $8ab$ and $-3ab = 5ab$.

(iii) The sum of -15 and $-4 = -19$ and the sum of $-15x$ and $-4y = -15x + (-4y)$

(iv) $15+8+3 = 26$ and the sum of $15x+8y+3x = 15x+3x = 18x$ $= 18x+8y$

(v) $12-9+15 = 12+15-9 = 27-9 = 18$ and $12ab - 9ab + 15ba$ $= 12ab + 15ba - 9ab = 27ab - 9ab = 18ab$ or $18ba$

(vi) $25-7-9 = 16$ and $25xy - 7xy - 9yx = 16xy$.

(vii) $-4-6-5 = -15$ and $-4ax - 6ax - 5ay = -10ax - 5ay$

3. Add

(i) $8xy$ and $3xy$

$8 + 3 = 11$

$8xy + 3xy = 11xy$

(ii) $2xyz$, xyz and $6xyz$

$xyz = 1$

So, $2 + 1 + 6 = 9$

$\therefore$ $2xyz + xyz + 6xyz = 9xyz$

(iii) $2a$, $3a$ and $4b$

$= 2a + 3a + 4b$

$= (5a + 4b)$ (Ans)

(iv) $3x$ and $2y$

$= 3x + 2y$

(v) $5m$, $3n$ and $4p$

$= 5m + 3n + 4p$

(vi) $6a$, $3a$ and $9ab$

$= 6a + 3a + 9ab$

$= 9a + 9ab$

(vii) $3p$, $4q$ and $9q$

$= 3p + (4q + 9q)$

$= 3p + 13q$

(viii) $5ab$, $4ba$ and $6b$

$= 5ab + 4ba = 9ab$

$= 9ab + 6b$

(ix) $50pq$, $30pq$ and $10pq$

$50pq + 30pq + 10pr$

$= 80pq + 10pr$

(x) $-2y, -y$ and $-3y$

$= -2y + (-1y) + (-3y)$

$= -2y - 1y - 3y$

$= -6y$

(xi) $-3b$ and $-b$

$= -3b + (-b$

$= -3b - (-1b)$

$= -3b - 1b$

$= -4b$

(xii) $5b, -4b$ and $-10b$.

$= 5b + (-4b) + (-10b)$

$= 5b - 4b - 10b$

$= -9b$

(xiii) $-2c, -c$ and $-5c$

$= -2c + (-c) + (-5c)$

$= -2c - 1c - 5c$

$= -8c$

4. Evaluate:

(i) $6a - a - 5a - 2a$

$= 6a - 1a = 5a - 5a = 0a - 2a = -2a$

(ii) $2b - 3b - b + 4b$

$= 2b + 4b - 3b - b$

$= 6b - 3b - b$

$= 3b - b$

$= 2b$

(iii) $3x - 2x - 4x + 7x$

$= 3x + 7x + 4$ ~~$3x + 7x + 4$~~ $3x + 7x - 2x - 4x$

$= 10x - 2x - 4x$

$= 4x$

(iv) $5ab + 2ab - 6ab + ab$

$= (5ab + 2ab) - (6ab + ab)$

$= 7ab - 7ab$

$= 0$

$5ab + 2ab + ab - 8ab - 6ab$

$= 2ab$

(v) $8x - 5y - 3x + 10y$

$= 8x - 3x + 10y - 5y$

$= 5x + 5y$

5- Evaluate:

(i) $-7x + 9x + 2x - 2x$

$= 9x + 2x - 7x - 2x$

$= 11x - 9x$

$= 9x$

(ii) $5ab - 2ab - 8ab + 6ab$

$= 8ab + 6ab - 8ab - 8ab$

$= 14ab - 16ab$

$= ab$

(iii) $-8a - 3a + 12a + 13a - 6a$

$= -8a + 12a + 13a - 3a - 6a$

$= -20a + 13a -$

(iii)

$= 12a + 13a - (8a + 3a + 6a)$

$= 25a - 17a$

$= 8a$

(iv) $19abc - 11abc - 12abc + 14abc$

$19abc + 14abc - 11abc + 12abc$

$= 33abc - 23abc$

$= 10abc$

8- Subtract the first term from the second:

(i) $4ab, 6ba$

$= 6ba - 4ab$

$= 2ab$ or $2ba$

(ii) $4.8b, 6.8b$

$= 6.8b - 4.8b$

$= 2.0b$ or $2b$

(iii) $3.5abc, 10.5abc$

$= 10.5abc, 3.5abc$

$= 7.0abc$ or $7b$

(iv) $3\frac{1}{2}mn, 8\frac{1}{2}nm$

$= 8\frac{1}{2}nm - 3\frac{1}{2}nm$

$= 8 - 3 - \frac{1}{2} - \frac{1}{2}$

$= 5 - 0$

$= 5nm$ or $5mn$

$8.5mn - 3.5mn$

or $5.0mn$ or $5nm$

7- Simplify -

(i) $2a^2b^2 + 5ab^2 + 8a^2b^2 - 3ab^2$
$= 2a^2b^2 + 8a^2b^2 + 5ab^2 - 3ab^2$
$= 10a^2b^2 + 2ab^2$

(ii) $4a + 3b - 2a - b$
$= 4a - 2a + 3b - b$
$= 2a + 2b$

(iii) $2xy + 4yz + 5x \cdot y + 3yz - 6xy$
$= 2xy + 5xy - 6xy + 4yz + 3yz$
$= 1xy + 7yz$

(iv) $ab + 15ab - 11ab - 2ab$
$= 16ab - 9ab$
$= 7ab$

(v) $6a^2 - 3b^2 + 2a^2 + 5b^2 - 4a^2$
$= 6a^2 + 2a^2 - 4a^2 + 5b^2 + 3b^2$
$= 4a^2 + 2b^2$

(vi) $8abc + 2ab - 4abc + ab$
$= 8abc - 4abc + 2ab + ab$
$= 4abc + 3ab$

(vii) $9xyz + 15yxz - 10zyx - 2zxy$
$= 24xyz - (10zyx + 2zxy)$
$= 24xyz - 12zyx$
$= 12zyx$

Important Notes

(viii) $13pqr + 2p + 4q - 6pqr + 5pqr$

$= 13pqr + 5pqr - 6pqr + 2p + 4q$

$= 18pqr - 6pqr + 2p + 4q$

$= 12pqr + 2p + 4q$

(ix) $4ab + 0 - 2ba$

$= 4ab - 2ba$

$= 2ab$ or $2ba$

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

$= 6x^2y + 5x^2y - 2xy^2 - xy^2$

$= 11x^2y - 3xy^2$