

MATHEMATICS

WILFRED HIC2

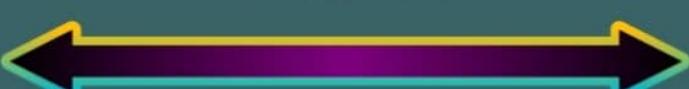
Class-7th

Chapter-12

Algebraic expressions

Exercise-12.2

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Q. 1. Sol. (i) $21b - 32 + 7b - 20b$
 $= 21b + 7b - 20b - 32$
 $= (21 + 7 - 20)b - 32$
 $= 8b - 32 \text{ } \checkmark$

(ii) $-z^2 + 13z^2 - 5z + 7z^3 - 15z$
 $= 7z^3 - z^2 + 13z^2 - 5z - 15z$
 $= 7z^3 + (-1 + 13)z^2 + (-5 - 15)z$
 $= 7z^3 + 12z^2 - 20z. \text{ } \checkmark$

(iii) $p - (p - q) - q - (q - p)$
 $= p - p + q - q - q + p$
 ~~$= p - p + p + q - q - q$~~
 $= p - q \text{ } \checkmark$

(iv) $3a - 2b - ab - (a - b + ab) + 3ab + b - a$
 $= 3a - 2b - ab - a + b - ab + 3ab + b - a$
 $= 3a - a - a - 2b + b + b - ab - ab + 3ab$
 $= 3a - 2a - \cancel{2b} + \cancel{2b} - 2ab + 3ab$
 $= a + ab \text{ } \checkmark$

(vi) $(3y^2 + 5y - 4) - (8y - y^2 - 4)$
 $= 3y^2 + 5y - 4 - 8y + y^2 + 4$
 $= 3y^2 + y^2 + 5y - 8y - 4 + 4$
 $= 4y^2 - 3y \text{ } \checkmark$

B2. Sol: ~~sold~~:

$$\begin{aligned}(i) \quad & (3mn) + (-5mn) + (8mn) + (-4mn) \\&= 3mn - 5mn + 8mn - 4mn \\&= 3mn + 8mn - 5mn - 4mn \\&= 16mn - 9mn \\&= 7mn. \quad \checkmark.\end{aligned}$$

$$\begin{aligned}(ii) \quad & t - 8tz + 3tz - z + z - t \\&= t - t - 8tz + 3tz - z + z \\&= -5tz \quad \checkmark\end{aligned}$$

$$\begin{aligned}(iii) \quad & (-7mn+5) + (12mn+2) + (9mn-8) + (-2mn-3) \\&= -7mn + 5 + 12mn + 2 + 9mn - 8 + (-2mn - 3) \\&= -7mn + 12mn + 9mn - 2mn + 5 + 2 - 8 - 3 \\&= 21mn - 9mn + 7 - 11 \\&= 12mn - 4 \quad \checkmark.\end{aligned}$$

$$\begin{aligned}(iv) \quad & (a+b-3) + (b-a+3) + (a-b+3) \\&= a + b - 3 + b - a + 3 + a - b + 3 \\&= a + a - a + b + b - b + 3 + 3 - 3 \\&= a + b + 3 \quad \checkmark.\end{aligned}$$

$$\begin{aligned}(v) \quad & 4x^2y + (-3xy^2) + (-5xy^2) + (5x^2y) \\&= 4x^2y - 3xy^2 - 5xy^2 + 5x^2y \\&= 4x^2y + 5x^2y - 3xy^2 - 5xy^2 \\&= 9x^2y - 8xy^2. \quad \checkmark\end{aligned}$$