

19(B)

(i)  $3a + 4b + 7c$

$$\begin{array}{r} -5a + 3b - 6c \\ 4a - 2b - 4c \\ \hline 2a + 5b - 3c \end{array}$$

(ii)

$$\begin{array}{r} 2x^2 + xy - y^2 \\ -x^2 + 2xy + 3y^2 \\ 3x^2 - 10xy + 4y^2 \\ \hline 4x^2 + 7xy + 6y^2 \end{array}$$

(iii)

$$\begin{array}{r} x^2 - x + 1 \\ -5x^2 + 2x - 2 \\ 3x^2 - 3x + 1 \\ \hline -1x^2 - 2x + 0 \end{array}$$

(iv)

$$\begin{array}{r} a^2 - ab + bc \\ -2a^2 + 2ab + bc \\ 3a^2 + ab - 3bc \\ \hline 2a^2 + 2ab - bc \end{array}$$

$$\begin{array}{r}
 \text{(v)} \quad 4x^2 + 7 - 3x \\
 - 7x^2 + 8 + 4x \\
 - 2x^2 - 10 + 9x \\
 \hline
 9x^2 + 5 + 6x
 \end{array}$$

$$\begin{array}{r}
 \text{(vi)} \quad 3x + 4xy - y^2 \\
 - 4x + xy + 2y^2 \\
 + 6x - xy + 3y^2 \\
 \hline
 5x + 4xy + 4y^2
 \end{array}$$

$$\begin{array}{r}
 \text{2(i)} \quad -17x^2 - 2xy + 23y^2 \\
 + 15x^2 + 7xy - 9y^2 \\
 13x^2 - 4xy + 3y^2 \\
 \hline
 11x^2 + xy + 17y^2
 \end{array}$$

$$\begin{array}{r}
 \text{2(ii)} \quad -x^2 - 3xy + 3y^2 + 8 \\
 - 9y^2 \\
 \hline
 -x^2 - 3xy - 6y^2 + 8
 \end{array}$$

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$$\begin{array}{r}
 \text{(ii)} \quad -x^2 - 3xy + 3y^2 + 8 \\
 \quad \quad 3x^2 + 4xy - 5y^2 - 3 \\
 \quad \quad \underline{2x^2 - 6xy + y^2 - 2} \\
 \quad \quad 4x^2 - 5xy - y^2 + 3
 \end{array}$$

$$\begin{array}{r}
 \text{(iii)} \quad a^3 - 2b^3 + a \\
 \quad \quad -2a^3 + b^3 + 0 + b \\
 \quad \quad \underline{4a^3 + 2b^3 - 5a - 2b} \\
 \quad \quad 3a^3 + 1b^3 - 4a - 1b
 \end{array}$$

~~$$3(i) \quad 3a - (a + 2b)$$~~

~~$$\Rightarrow 3a - a + 3a + 2b$$~~

~~$$= \frac{2a}{a} + 3a + 2b$$~~

~~$$= 5a + 2b$$~~

$$3(ii) \quad 3a - (a + 2b)$$

$$\Rightarrow 3a - a - 2b$$

$$= 2a - 2b$$

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

$$\Rightarrow (5x - 3y) - x - y$$

$$\Rightarrow 5x - x - 3y - y$$

$$= 4x - 4y$$

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

$$\Rightarrow (8a + 15b) - (3b + 7a)$$

$$= 1a - 8b$$

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

$$\Rightarrow (8x + 7y) - 4y + 3x$$

$$\Rightarrow 8x + 3x - 7y - 4y$$

$$= 11x - 3y$$

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

$$\Rightarrow 7 - 4a - 5$$

$$\Rightarrow 7 - 5 - 4a$$

$$= 2 - 4a$$

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

$$\Rightarrow (6y - 13) - 4 - 7y$$

$$\Rightarrow 6y - 7y - 13 - 4$$

$$= -y - 17$$

$$4 \rightarrow (i) \begin{array}{r} a - 4b - 2c \\ 5a - 3b + 2c \\ \hline \end{array}$$

$$\begin{array}{r} a - 4b - 2c \\ 5a - 3b + 2c \\ \hline 4a - 7b + 0c \end{array}$$

$$(ii) \begin{array}{r} 12x + 7y - 21z \\ 4x - 6y + 3z \\ \hline \end{array}$$

$$\begin{array}{r} 12x + 7y - 21z \\ 4x - 6y + 3z \\ \hline 8x + y - 18z \end{array}$$

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(II)

$$\begin{array}{r} 5a - 7b + 2c \\ - (a + 4b + 4c + 5) \\ \hline 6a - 3b - 2c - 5 \end{array}$$

(IV)

$$\begin{array}{r} x - y - z \\ - (8x + 12y + 17z) \\ \hline -7x + 11y - 18z \end{array}$$

$$\begin{aligned}
 & 2ab \\
 (v) \quad & ab - 2cd + 2ac + bd \\
 & - (2cd + ac + 2bd) \\
 \hline
 & ab - cd + 3ac + 3bd
 \end{aligned}$$

$$\begin{aligned}
 \text{Siv} \quad & bc - ca + ab \\
 & - (-ab) \\
 & - (-bc)
 \end{aligned}$$

$$\begin{aligned}
 & x - y - z \\
 & (x + y + z) - (x + y + z) \\
 \hline
 & 0
 \end{aligned}$$

$$\begin{aligned}
 \text{Siv} \quad & bc - ca + ab \\
 & - (-bc + ca + ab) \\
 \hline
 & 0bc + (-ca) + ab - ab
 \end{aligned}$$

$$\begin{aligned}
 \text{ii} \quad & 3x + 5y - 4z \\
 & - (-5x + 6y + 3z) \\
 \hline
 & -2x - y - 7z
 \end{aligned}$$

$$\begin{aligned}
 \text{iii} \quad & \frac{1}{2}p - \frac{1}{3}q - \frac{3}{2}r \\
 & - \left( \frac{1}{2}p + q + r \right) \\
 \hline
 & = \frac{1}{2}p - \frac{4}{3}q - \frac{5}{2}r
 \end{aligned}$$

$$\begin{aligned}
 & x + y + z \\
 & (x + y + z) - (x + y + z) \\
 \hline
 & 0
 \end{aligned}$$