

Ch-11

11(c)

1.

Product of  $3x$ ,  $5x^2y$  and  $2y$

$$= 3x \times 5x^2y \times 2y$$

$$= 3 \times 5 \times 2 \times x \times x^2 \times y \times y$$

$$= 30x^3y^2$$

Product of  $5$ ,  $3a$  and  $2ab^2$

$$= 5 \times 3a \times 2ab^2$$

$$= 5 \times 3 \times 2 \times a \times ab^2$$

$$= 30a^2b^2$$

~~Product~~ Product of  $5x+2y$  and  $3xy$

$$= 3xy(5x+2y)$$

$$= 3xy \times 5x + 3xy \times 2y$$

$$= 15x^2y + 6xy^2$$

Product of  $6a - 5b$  and  $-2a$

$$= -2a(6a - 5b)$$

$$= -2a \times 6a + (-2a)(-5b)$$

$$= -12a^2 + 10ab$$

Product of  $4a + 5b$  and  $4a - 5b$

$$= 16a^2 - 25b^2$$

$$\begin{array}{r} 4a + 5b \\ \times 4a - 5b \\ \hline 16a^2 + 20ab \\ - 20ab - 25b^2 \\ \hline 16a^2 - 25b^2 \end{array}$$

Product of  $9xy + 2y^2$  and  $2x - 3y$

$$= 18xy^2 - 23xy^2 - 6y^3$$

$$\begin{array}{r} 9xy + 2y^2 \\ \times 2x - 3y \\ \hline 18xy^2 + 4xy^2 \\ - 27xy^2 - 6y^3 \\ \hline \end{array}$$

Product of  $-3m^2n + 5mn - 4m^2$  and  $6m^2n$

$$= 6m^2n(-3m^2n + 5mn - 4m^2)$$

$$= 6m^2n \times (-3m^2n) + 6m^2n \times 5mn + 6m^2n \times (-4m^2)$$

$$= -18m^4n^2 + 30m^3n^2 - 24m^4n^3$$

2.

~~$$\begin{array}{r} 3a + 2b \\ \times 3xy \\ \hline 9a^2x + 6abx \end{array}$$~~

$$\begin{array}{r} \text{i) } 3a + 2b \\ \times -3xy \\ \hline -9axy - 6bxy \end{array}$$

$$\begin{array}{r} 9x - 5y \\ \times -3xy \\ \hline -27xy^2 + 15xy^2 \end{array}$$

$$\begin{array}{r} \text{iii) } 3xy - 2x^2 - 6x \\ \times 5xy \\ \hline 15xy^2 + 10x^2y + 30x^2y \end{array}$$

$$\begin{array}{r} a + b \\ \times a + b \\ \hline a^2 + ab \\ ab + b^2 \end{array}$$

$$\begin{array}{r} \text{v) } ax - b^2 \\ \times 2ax + ab^2 \\ \hline 2ax^2 - 2ab^2x + 2ab^3 \end{array}$$

$$a^2 + 2ab + b^2$$

$$\text{vi) } 2a - 5 + 3c$$

$$\times 2a - 4b$$

$$\begin{array}{r} 4a^2 - 2ab + 6ac \\ - 2ab + 4b^2 - 12bc \\ \hline \end{array}$$

$$4a^2 - 10ab + 6ac + 4b^2 - 12bc$$

$$\text{vii) } 3m^2 + 6m - 2n$$

$$\times 5n - 3m$$

$$\begin{array}{r} 15m^2n + 30mn - 10n^2 - 9m^3 - 18m^2 + 6mn \\ + 30mn \\ \hline \end{array}$$

$$16m^2n + 36mn - 10n^2 - 9m^3 - 18m^2$$

$$\text{viii) } 6 - 3x + 2x^2$$

$$\times 1 + 5x - x^2$$

$$\begin{array}{r} 6 - 3x + 2x^2 \\ + 30x - 15x^2 + 10x^3 \\ \hline \end{array}$$

$$6 + 27x - 19x^2 + 10x^3$$

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

$$6 + 27x - 19x^2 + 13x^3 - 2x^4$$