

Expanding and Simplifying

$$\begin{aligned}\text{Ex1} \quad & 3(2x+5) + 4(x+3) \\ & = 6x + 15 + 4x + 12 \\ & = 10x + 27\end{aligned}$$

$$\begin{aligned}\text{Ex2} \quad & 7(2x-3) - 4(x-5) \\ & = 14x - 21 - 4x + 20 \\ & = 10x - 1\end{aligned}$$

Multiplying Brackets

$$\begin{aligned}\text{Ex3} \quad & (x+3)(x+4) \\ & = x^2 + 3x + 4x + 12 \\ & = x^2 + 7x + 12\end{aligned}$$

	$x + 3$	
x	x^2	$+3x$
$+4$	$+4x$	$+12$

$$\begin{aligned}\text{Ex4} \quad & (2y-1)(y+5) \\ & = 2y^2 - y + 10y - 5 \\ & = 2y^2 + 9y - 5\end{aligned}$$

Exercise

$$\begin{aligned}1) \quad & (x+6)(x+2) \\ & = x^2 + 6x + 2x + 12 \\ & = x^2 + 8x + 12\end{aligned}$$

$$\begin{aligned} 2) \quad & (2y+3)(3y+2) \\ & = 6y^2 + 9y + 4y + 6 \\ & = 6y^2 + 13y + 6 \end{aligned}$$

$$\begin{aligned} 3) \quad & (x-5)(x+7) \\ & = x^2 - 5x + 7x - 35 \\ & = x^2 + 2x - 35 \end{aligned}$$

$$\begin{aligned} 4) \quad & (2x-1)(2x+3) \\ & = 4x^2 - 2x + 6x - 3 \\ & = 4x^2 + 4x - 3 \end{aligned}$$

$$\begin{aligned} 5) \quad & (3p-2)(p-4) \\ & = 3p^2 - 2p - 12p + 8 \\ & = 3p^2 - 14p + 8 \end{aligned}$$

$$\begin{aligned} 6) \quad & (4p+q)(2p+q) \\ & = 8p^2 + 2pq + 4pq + q^2 \\ & = 8p^2 + 6pq + q^2 \end{aligned}$$

$$\begin{aligned} 7) \quad & (3k-5)(4k+3) \\ & = 12k^2 - 20k + 9k - 15 \\ & = 12k^2 - 11k - 15 \end{aligned}$$
