

Sec. 8.3 Multiplying Binomials

Problem 1:

$$\begin{aligned}
 \text{a. } & \overset{FO}{(2x+4)} \overset{IL}{(3x-7)} \overset{FI}{(3x-7)} \overset{OL}{(2x+4)} \\
 & = \overset{F}{2x} \overset{O}{(3x-7)} + \overset{I}{4} \overset{L}{(3x-7)} \\
 & \quad \overset{F}{6x^2} \overset{O}{-14x} + \overset{I}{12x} \overset{L}{-28} \\
 & \quad 6x^2 - 2x - 28
 \end{aligned}$$

$$\begin{aligned}
 \text{b. } & (x-6)(4x+3) \\
 & x(4x+3) - 6(4x+3) \\
 & 4x^2 + 3x - 24x - 18 \\
 & 4x^2 - 21x - 18
 \end{aligned}$$

$$\begin{aligned}
 \text{c. } & (3x+1)(x+4) \\
 & 3x(x+4) + 1(x+4) \leftarrow \\
 & 3x^2 + 12x + x + 4 \\
 & 3x^2 + 13x + 4
 \end{aligned}$$

$$\begin{aligned}
 \text{d. } & (2x-7)(3x^2+x-5) \\
 & 2x(3x^2+x-5) - 7(3x^2+x-5) \\
 \text{⑥ } & 6x^3 + 2x^2 - 10x - 21x^2 - 7x + 35 \\
 & 6x^3 - 19x^2 - 17x + 35
 \end{aligned}$$

$$\begin{aligned}
 \text{e. } & (4y^4+2)(2y^4-8) \\
 & 4y^4(2y^4-8) + 2(2y^4-8) \\
 & 8y^8 - 32y^4 + 4y^4 - 16 \\
 & 8y^8 - 22y^4 - 16
 \end{aligned}$$