

Multiplying Binomials (FOIL)

Simplify each product using FOIL.

$$\begin{aligned}\textcircled{1} (3x-4)(x+2) &= \overset{\text{First}}{(3x)}(\overset{\text{First}}{x}) + \overset{\text{Outer}}{(3x)}(\overset{\text{Outer}}{2}) + \overset{\text{Inner}}{(-4)}(\overset{\text{Inner}}{x}) + \overset{\text{Last}}{(-4)}(\overset{\text{Last}}{2}) \\ &= 3x^2 + 6x - 4x - 8 \\ &= \boxed{3x^2 + 2x - 8}\end{aligned}$$

$$\begin{aligned}\textcircled{2} (2n-8)(5n-6) &= (2n)(5n) + (2n)(-6) + (-8)(5n) + (-8)(-6) \\ &= 10n^2 - 12n - 40n + 48 \\ &= \boxed{10n^2 - 52n + 48}\end{aligned}$$

$$\begin{aligned}\textcircled{3} (3y^2+4)(2y-5) &= (3y^2)(2y) + (3y^2)(-5) + (4)(2y) + (4)(-5) \\ &= \boxed{6y^3 - 15y^2 + 8y - 20}\end{aligned}$$