

## Warm Up Questions

1.  $5x^3y^5(3x^2y - 4x^{-2} + 5xy^5)$

2.  $(2x - 5)(3x + 7)$

3.  $(5x - 3)^2$

4.  $7m^5np^2(3m^2n^{-3}p - 2m^{-2}p^3 + 5mn^3)$

$$1. \quad 5x^3y^5 \quad (\underline{3x^2y^1} - \underline{4x^{-2}} + \underline{5xy^5})$$

$$= 15x^5y^6 - 20xy^5 + 25x^4y^{10}$$

$$\begin{aligned} 2. & \quad (2x - 5)(3x + 7) \\ \checkmark & = 6x^2 + 14x - 15x - 35 \\ & = 6x^2 - 1x - 35 \end{aligned}$$

$$3. (5x - 3)^2$$

The image shows the expansion of  $(5x - 3)^2$  using the FOIL method. The expression is written as  $(5x - 3)(5x - 3)$  in blue ink. Red arrows indicate the following steps: a top arrow from the first 5 to the second 5, a middle arrow from the first 5 to the second -3, a bottom arrow from the first -3 to the second 5, and a bottom arrow from the first -3 to the second -3. The terms 5x and -3 in both binomials are underlined with red lines.

$$25x^2 - 15x - 15x + 9$$

$$= 25x^2 - 30x + 9$$

4.  $7m^5np^2(\underline{3m^2n^{-3}p^1} - \underline{2m^{-2}p^3} + \underline{5m^1n^3})$

$$21m^7n^{-2}p^3 - 14m^3n^1p^5 + 35m^6n^4p^2$$