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Example Worksheet questions on Negative Exponents

$$1) (6y^{-4})(2y^8) = (6 \cdot 2)(y^{-4}y^8) = 12(y^{8-4}) = 12y^4$$

$$\begin{aligned} 2) \left( \frac{x^{-2}y^3}{3} \right)^{-3} &= \left( \frac{y^3}{x^2 \cdot 3} \right)^{-3} = \left( \frac{x^2 \cdot 3}{y^3} \right)^3 = \frac{x^{2 \cdot 3} \cdot 3^{1 \cdot 3}}{y^{3 \cdot 3}} \\ &= \frac{x^6 \cdot 3^3}{y^9} \\ &= \frac{27x^6}{y^9} \end{aligned}$$

$$3) (-z)^7(4z^8) = -z^7(4z^8) = -4z^{7+8} = -4z^{15}$$

$$\begin{aligned} 4) (-4x^2)^3(8x^3)^{-1} &= (-4)^3(x^2)^3(8)^{-1}(x^3)^{-1} = \frac{-64 \cdot x^6}{8 \cdot x^3} = -8x^{6-3} \\ &= -8x^3 \end{aligned}$$