

9/17 Algebra 1 - Downing

$$\text{Ex) } \frac{x^{-2}}{1} = \boxed{\frac{1}{x^2}} \quad \text{Ex) } \frac{2x^{-3}}{y} = \boxed{\frac{2}{x^3y}} \quad \text{Ex) } \frac{2x^{-4}y}{3z^{-5}} = \boxed{\frac{2yz^5}{3x^4}}$$

$$\text{Ex) } x^{-2}y = \boxed{\frac{y}{x^2}}$$

★ Zero Exponent Property: Any nonzero number raised to the 0 power

$$\text{Ex) } 3^0 = 1 \quad \text{Ex) } (25x^3)^0 = 1 \quad \text{Ex) } 6^0 = 1 \quad \text{Ex) } -4^0 = -1 \quad \text{is } 1$$

$$\text{Ex) } (-1)^0 = 1 \quad \text{Ex) } 2^{-5} = \frac{1}{2^5} = \boxed{\frac{1}{32}}$$

$$\text{Ex) } (-5)^{-4} = \frac{1}{(-5)^4} = \boxed{\frac{1}{625}}$$

$$\text{Ex) } -3^{-2} = \frac{-1}{3^2} = \frac{-1}{9}$$

Expand

$$x^2 \cdot x^3 = x \cdot x \cdot x \cdot x \cdot x = x^5$$

$$y^4 \cdot y^5 = y \cdot y \cdot y \cdot y \cdot y \cdot y \cdot y \cdot y \cdot y = y^9$$

$$x^3 \cdot x^5 = x^8$$

$$x^3 \cdot y^9 \cdot x^4 = x^7 y^9$$

★ Multiplication property of exponents - when multiplying powers with the same base - add the exponents

$$\text{Ex) } (2x^5) \cdot (3x^2) = 6x^7$$

$$\text{Ex) } -2x^4y^2 \cdot 5x^4y^{-1} = \boxed{-10x^8y^1}$$

HW - #1-14, 15, 17, 19