

$$3x =$$

$$x^3 =$$

$$5a =$$

$$a^5 =$$

$$3xy = \quad + \quad +$$

$$(xy)^3 = \quad \cdot \quad \cdot \quad = x \cdot y \cdot x \cdot y \cdot x \cdot y$$

$$xy^3 =$$

$$\frac{xy^3}{z^5} = \underline{\hspace{2cm}}$$

$$-3^2 = -(3) \cdot (3) =$$

$$(-3)^2 = ( \quad ) \cdot ( \quad ) =$$

$$(-2)^3 = ( \quad ) \cdot ( \quad ) \cdot ( \quad ) =$$

$$-2^3 = -( \quad ) \cdot ( \quad ) \cdot ( \quad ) =$$

$$-(xy)^2 = -( \quad ) \cdot ( \quad ) = -x \cdot y \cdot x \cdot y = -x \cdot x \cdot y \cdot y =$$

$$\frac{x^5}{x^3} = \frac{\quad}{\quad} = \frac{1}{\quad} =$$

$$\text{Note: } \frac{x^5}{x^3} = x^{5-3} = x^2$$

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$$\frac{x^3}{x^5} = \frac{\quad}{\quad} = \frac{1}{\quad} =$$

$$\text{Note: } \frac{x^3}{x^5} = x^{3-5} = x^{-2} = \frac{1}{x^2}$$

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$$\frac{x^3 y^4 z^5}{x^5 y^2 z^7} = \frac{x \cdot x \cdot x \cdot y \cdot y \cdot y \cdot y \cdot z \cdot z \cdot z \cdot z \cdot z}{x \cdot x \cdot x \cdot x \cdot x \cdot y \cdot y \cdot z \cdot z \cdot z \cdot z \cdot z \cdot z \cdot z} =$$

$$\text{Note: } \frac{x^3 y^4 z^5}{x^5 y^2 z^7} = x^{3-5} y^{4-2} z^{5-7} = x^{-2} y^2 z^{-2} = \frac{y^2}{x^2 z^2}$$

$$x^{-2}y^2z^{-2} = \underline{\hspace{2cm}}$$

$$\frac{y^{-1}}{x^3z^{-4}} = \underline{\hspace{2cm}}$$

$$\frac{a^{-5}}{b^{-6}c^{-3}} = \underline{\hspace{2cm}}$$

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

$$2x + 3x = \quad +$$

$$2x^2 + 3x^2 = \quad +$$

$$2x^2 + 3x \quad \text{Cannot combine!}$$

$$7x^4y^3 - 4x^4y^3 =$$

$$(x^2 y^3)^3 = ( \quad ) \cdot ( \quad ) \cdot ( \quad ) = x^2 \cdot y^3 \cdot x^2 \cdot y^3 \cdot x^2 \cdot y^3 =$$

*Note:*  $(x^2 y^3)^3 = x^6 y^9$

$$(2x^3 y^5)^2 = 2^2 x^6 y^{10} =$$

$$(2x^{-3} y^5 z^{-1})^{-2} = 2^{-2} x^6 y^{-10} z^2 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$