

1.4 - Combining the Exponent Laws

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* use the 6 exponent laws together to evaluate more complex questions:

- combine coefficients
- combine variables of the same base

Ex. simplify:

$$\textcircled{1} \quad (7a^8)(-6a^4)$$

$$(7)(-6)a^8 \cdot a^4$$

$$-42a^{12}$$

$$\textcircled{2} \quad \frac{-16n^5}{-2n^1} \rightarrow \frac{-16nnnnn}{2n}$$

$8n^4$

$$\textcircled{3} \quad (3x^2y^5)^3 = (3)^3(x^2)^3(y^5)^3$$
$$27x^6y^{15}$$

$$\textcircled{4} \quad \frac{32x^7y^4}{-8x^3y^2} = -4x^4y^2$$

$$\textcircled{5} \quad \frac{(4x^3y^5)^2}{(x^2y^3)^3}$$

* clear brackets (use power of a power law) before

$$(2x^2)^3$$

$$\frac{16x^6y^{10}}{8x^6}$$

$$2y^{10}$$

of a power law) before
combining top + bottom

x^6 cancels out
identical factors.