

Exponent Rule Review - Practice

Date _____

Simplify. Your answer should contain only positive exponents.

1) $3zx^2y^4 \cdot 4x^3y^{-1}$

2) $x^{-4}y^3 \cdot 3x^{-2}y^3z^{-1}$

3) $(m^2p^{-1}q^3)^2$

4) $(3h^{-3}j^4k^3)^3$

5) $(4zx^{-2}y^{-3})^{-3}$

6) $\frac{2p^3q^2r^{-4}}{4qp^3}$

7) $\frac{3jh^{-1}k^4}{4h^3j^{-3}k^{-1}}$

8) $(2bc^4 \cdot a^3b^{-3}c^2)^{-4}$

$$9) (2m^{-4}n^2p^4)^{-4} \cdot m^{-2}n^4p^3$$

$$10) \left(\frac{n^2p^4}{2m^{-2}p^{-4}} \right)^{-1}$$

$$11) \frac{4x^{-3}z^{-4} \cdot 3y^2}{2y^4z^2}$$

$$12) \frac{2kh^{-3} \cdot 4h^{-2}j^{-2}k^{-4}}{2j^4 \cdot 3h^2j^4k^4}$$

$$13) \frac{(m^2n^2p^{-4})^3}{2m^2n^3p^3 \cdot 2mn^{-4}}$$

$$14) \frac{y^4z^4 \cdot 2x^{-2}}{(x^{-4}z^3)^{-2}}$$

$$15) \frac{(a^2b^4c^2)^4 \cdot 2ba^4c^3}{2a^4b^2c^2 \cdot 2a^3c^2}$$

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Simplify. Your answer should contain only positive exponents.

1) $3zx^2y^4 \cdot 4x^3y^{-1}$

$$12x^5zy^3$$

2) $x^{-4}y^3 \cdot 3x^{-2}y^3z^{-1}$

$$\frac{3y^6}{x^6z}$$

3) $(m^2p^{-1}q^3)^2$

$$\frac{m^4q^6}{p^2}$$

4) $(3h^{-3}j^4k^3)^3$

$$\frac{27j^{12}k^9}{h^9}$$

5) $(4zx^{-2}y^{-3})^{-3}$

$$\frac{x^6y^9}{64z^3}$$

6) $\frac{2p^3q^2r^{-4}}{4qp^3}$

$$\frac{q}{2r^4}$$

7) $\frac{3jh^{-1}k^4}{4h^3j^{-3}k^{-1}}$

$$\frac{3j^4k^5}{4h^4}$$

8) $(2bc^4 \cdot a^3b^{-3}c^2)^{-4}$

$$\frac{b^8}{16a^{12}c^{24}}$$

$$9) (2m^{-4}n^2p^4)^{-4} \cdot m^{-2}n^4p^3$$

$$\frac{m^{14}}{16n^4p^{13}}$$

$$10) \left(\frac{n^2p^4}{2m^{-2}p^{-4}} \right)^{-1}$$

$$\frac{2}{m^2p^8n^2}$$

$$11) \frac{4x^{-3}z^{-4} \cdot 3y^2}{2y^4z^2}$$

$$\frac{6}{x^3z^6y^2}$$

$$12) \frac{2kh^{-3} \cdot 4h^{-2}j^{-2}k^{-4}}{2j^4 \cdot 3h^2j^4k^4}$$

$$\frac{4}{3h^7j^{10}k^7}$$

$$13) \frac{(m^2n^2p^{-4})^3}{2m^2n^3p^3 \cdot 2mn^{-4}}$$

$$\frac{m^3n^7}{4p^{15}}$$

$$14) \frac{y^4z^4 \cdot 2x^{-2}}{(x^{-4}z^3)^{-2}}$$

$$\frac{2y^4z^{10}}{x^{10}}$$

$$15) \frac{(a^2b^4c^2)^4 \cdot 2ba^4c^3}{2a^4b^2c^2 \cdot 2a^3c^2}$$

$$\frac{a^5b^{15}c^7}{2}$$