

Unit 1.3 Division properties of exponents

Period _____

Simplify. Your answer should contain only positive exponents.

1) $\frac{4^4}{4}$

4^3

2) $\frac{2^3}{2}$

2^2

3) $\frac{2p^2}{2p^3}$

$\frac{1}{p}$

4) $\frac{3n^2}{n^4}$

$\frac{3}{n^2}$

5) $\frac{n^4}{4n}$

$\frac{n^3}{4}$

6) $\frac{4a^2}{a^3}$

$\frac{4}{a}$

7) $\frac{3m^4}{3m^3}$

m

8) $\frac{3r^3}{4r^3}$

$\frac{3}{4}$

9) $\frac{4x^3}{4xy^3}$

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

10) $\frac{v^4}{2v}$

$\frac{v^3}{2}$

11) $\frac{4y}{xy^3}$

$\frac{4}{xy^2}$

12) $\frac{2x^4y^2}{3yx^3}$

$\frac{2xy}{3}$

13) $\frac{2x}{2x^4y^2}$

$\frac{1}{x^3y^2}$

14) $\frac{4x^4y^2}{2yx^3}$

$2xy$

15) $\frac{3yz^3}{3xy^2}$

$\frac{z^3}{xy}$

16) $\frac{4m^2p^3}{2m^4p^2}$

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

$$17) \frac{3y^4z^2}{4xy^4}$$

$$\frac{3z^2}{4x}$$

$$18) \frac{2x^3y^4}{yzx^3}$$

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

$$19) \frac{4m^2q^3}{2mq}$$

$$2mq^2$$

$$20) \frac{4hk}{j^4k^4}$$

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

$$21) \left(\frac{2^4 \cdot 2^4}{2^2}\right)^2$$

$$2^{12}$$

$$22) \left(\frac{2}{2^2 \cdot 2^2}\right)^4$$

$$\frac{1}{2^{12}}$$

$$23) \frac{(2a)^2}{a \cdot a}$$

$$4$$

$$24) \frac{(2x^4)^3}{2x^4 \cdot x}$$

$$4x^7$$

$$25) \frac{(x^2)^3}{2x^3 \cdot 2x^3}$$

$$\frac{1}{4}$$

$$26) \frac{b^3 \cdot 2b^3}{(2b^3)^3 \cdot 2b^4}$$

$$\frac{1}{8b^7}$$

$$27) \left(\frac{m^3n^2 \cdot m}{(m^3n^3)^2}\right)^3$$

$$\frac{1}{m^6n^{12}}$$

$$28) \frac{m^2n^2 \cdot m^3n^2 \cdot m^4n^4}{(2m^4n^3)^3}$$

$$\frac{1}{8m^3n}$$

$$29) \frac{(u^4v^4)^3}{2u^4v^4 \cdot 2vu^4}$$

$$\frac{u^4v^7}{4}$$

$$30) \frac{mn^2}{(m^2n^2 \cdot 2m^3)^2}$$

$$\frac{1}{4m^9n^2}$$

$$31) \frac{(2mqp^4)^2}{2m^3p^3q^3 \cdot mp^3q^2}$$

$$\frac{2p^2}{m^2q^3}$$

$$32) \left(\frac{2xy^2z^4 \cdot 2z^4}{(x^2z^3)^2}\right)^4$$

$$\frac{256y^8z^8}{x^{12}}$$

$$33) \left(\frac{2qm^2p^2 \cdot 2mp^3}{qm^3p^2}\right)^2$$

$$16p^6$$

$$34) \frac{2z^2}{(x^4y^2z^3)^4 \cdot (x^3y^3z^3)^4}$$

$$\frac{2}{x^{28}y^{20}z^{22}}$$