

Simplify each expression to have positive exponents.

1.) 8^{-1}

$$\frac{1}{8^1} = \frac{1}{8}$$

2.) 3^{-2}

$$\frac{1}{3^2} = \frac{1}{9}$$

3.) y^{-7}

$$\frac{1}{y^7}$$

Simplify each expression to have positive exponents.

4.) w^{-12}

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

5.) $(3x)^{-1}$

$$\frac{1}{(3x)^1} = \frac{1}{3x}$$

6.) $(5a)^{-2}$

$$\begin{aligned} \frac{1}{(5a)^2} &= \frac{1}{5a \cdot 5a} \\ &= \frac{1}{25a^2} \end{aligned}$$

Simplify each expression to have positive exponents.

7.) $4c^{-3}$

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

8.) $2pr^{-5}$

$$\frac{2p}{r^5}$$

9.) $-6q^{-2}$

$$\frac{-6}{q^2}$$

Simplify each expression to have positive exponents.

10.) $-18a^2b^{-3}$

$$\frac{-18a^2}{b^3}$$

11.) $\frac{1}{x^{-2}}$

$$1x^2$$

$$x^2$$

12.) $\frac{5}{z^{-3}}$

$$5z^3$$

Simplify each expression to have positive exponents.

13.) $\frac{2x}{a^{-4}}$

$$\boxed{-2xa^4}$$

14.) $\frac{3b}{-5c^{-1}}$

$$\boxed{\frac{3bc}{-5}}$$

15.) $\frac{a^{-1}}{b^{-1}}$

$$\boxed{\frac{b}{a}}$$

Simplify each expression to have positive exponents.

16.) $\frac{2n^{-2}}{3p^{-3}}$

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

17.) $\frac{xy^{-1}}{9z^{-2}}$

$$\boxed{\frac{-xz^2}{9y}}$$

18.) $\frac{4ab^{-2}}{-3c^{-2}}$

$$\boxed{\frac{4ac^2}{-3b^2}}$$

Simplify each expression to have positive exponents.

$$19.) \frac{(ab)^{-1}}{cd^{-2}}$$

$$\frac{d^2}{cab}$$

$$20.) \frac{w(xy)^{-2}}{(3tv)^{-2}}$$

$$\frac{w(3tv)^2}{(xy)^2}$$

$$\frac{w \cdot 3tv \cdot 3tv}{xy \cdot xy}$$

$$\frac{9wt^2v^2}{x^2y^2}$$

$$21.) \left(\frac{3}{4}\right)^{-1}$$

$$\left(\frac{4}{3}\right)^1$$

$$\frac{4}{3}$$

Simplify each expression to have positive exponents.

$$22.) \left(\frac{2}{5}\right)^{-2}$$

$$\left(\frac{5}{2}\right)^2 = \frac{5}{2} \cdot \frac{5}{2}$$

$$= \frac{25}{4}$$

$$23.) \left(\frac{2a}{9c}\right)^{-2}$$

$$\left(\frac{9c}{2a}\right)^2 = \frac{9c}{2a} \cdot \frac{9c}{2a}$$

$$= \frac{81c^2}{4a^2}$$

$$24.) \left(\frac{5x}{3yz}\right)^{-3}$$

$$\left(\frac{3yz}{5x}\right)^3$$

$$\frac{27y^3z^3}{125x^3}$$