

Solutions – Negative & Zero Indices (A)

$$\text{Simplify } \frac{x^2 y^{-3}}{x^{-2} y}$$
$$\frac{x^4}{y^4}$$

$$\text{Simplify } \frac{2x^{-3} y^2}{4x^{-1} y}$$
$$\frac{y}{2x^2}$$

$$\text{Simplify } \frac{x^4 y^4}{x^6 y^2}$$
$$\frac{y^2}{x^2}$$

$$\text{Simplify } x^0$$

1

$$\text{Simplify } \frac{x^4 y^3}{x^7 y^5}$$
$$\frac{1}{x^3 y^2}$$

$$\text{Simplify } \frac{x^4}{x^5}$$
$$\frac{1}{x}$$

Solutions – Negative & Zero Indices (B)

Simplify $\frac{x^6}{x^9}$
 $\frac{1}{x^3}$

Simplify $\frac{x^2y^6}{x^4y^2}$
 $\frac{y^4}{x^2}$

Simplify $\left(\frac{2x^2}{4y}\right)^{-3}$
 $\frac{64y^3}{8x^6}$

Simplify x^0

1

Simplify $\frac{x^2y^{-3}}{x^{-2}y}$
 $\frac{x^4}{y^4}$

Simplify $\frac{2x^{-3}y^2}{4x^{-1}y}$
 $\frac{y}{2x^2}$

Solutions – Negative & Zero Indices (C)

Simplify x^{-2}

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

Simplify $\frac{x^4}{x^8}$

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

Simplify $\frac{x^2 y^6}{x^4 y^2}$

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

Simplify $\left(\frac{3x^2}{4y}\right)^{-3}$

$$\frac{64y^3}{27x^6}$$

Simplify $\frac{x^4 y^6}{x^9 y^9}$

$$\frac{1}{x^5 y^3}$$

Simplify $\frac{2x^{-3} y^2}{4x^{-1} y}$

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

Solutions – Negative & Zero Indices (D)

$$\text{Simplify } \frac{x^5}{x^8} \\ \frac{1}{x^3}$$

$$\text{Simplify } \frac{x^4 y^4}{x^6 y^2} \\ \frac{y^2}{x^2}$$

$$\text{Simplify } \left(\frac{4x^2}{5y}\right)^{-3} \\ \frac{125y^3}{64x^6}$$

$$\text{Simplify } x^{-5} \\ \frac{1}{x^5}$$

$$\text{Simplify } \frac{x^2 y^{-3}}{x^{-2} y} \\ \frac{x^4}{y^4}$$

$$\text{Simplify } \frac{2x^{-3} y^2}{4x^{-1} y} \\ \frac{y}{2x^2}$$

Solutions – Negative & Zero Indices (E)

$$\text{Simplify } \frac{2x^{-3}y^2}{4x^{-1}y}$$
$$\frac{y}{2x^2}$$

$$\text{Simplify } \frac{x^4}{x^8}$$
$$\frac{1}{x^4}$$

$$\text{Simplify } \frac{x^2y^{-3}}{x^{-2}y}$$
$$\frac{x^4}{y^4}$$

$$\text{Simplify } \frac{x^2y^7}{x^4y^4}$$
$$\frac{y^3}{x^2}$$

$$\text{Simplify } x^0$$

$$1$$

$$\text{Simplify } \left(\frac{4x^2}{2y}\right)^{-2}$$
$$\frac{4y^2}{16x^4}$$

Solutions – Negative & Zero Indices (F)

$$\text{Simplify } \frac{x^4 y^7}{x^6 y^5}$$
$$\frac{y^2}{x^2}$$

$$\text{Simplify } \frac{x^2 y^{-3}}{x^{-2} y}$$
$$\frac{x^4}{y^4}$$

$$\text{Simplify } \left(\frac{4x^2}{2y}\right)^{-3}$$
$$\frac{8y^3}{64x^6}$$

$$\text{Simplify } x^0$$

1

$$\text{Simplify } \frac{x^4}{x^8}$$
$$\frac{1}{x^4}$$

$$\text{Simplify } \frac{2x^{-3} y^2}{4x^{-1} y}$$
$$\frac{y}{2x^2}$$

Solutions – Negative & Zero Indices (G)

$$\text{Simplify } \frac{x^5}{x^7} \\ \frac{1}{x^2}$$

$$\text{Simplify } \frac{x^2 y^{-3}}{x^{-2} y} \\ \frac{x^4}{y^4}$$

$$\text{Simplify } \frac{x^2 y^4}{x^5 y^7} \\ \frac{1}{x^3 y^3}$$

$$\text{Simplify } x^0$$

$$1$$

$$\text{Simplify } \frac{x^2 y^6}{x^4 y^2} \\ \frac{y^4}{x^2}$$

$$\text{Simplify } \left(\frac{4x^2}{5y}\right)^{-3} \\ \frac{125y^3}{64x^6}$$

Solutions – Negative & Zero Indices (H)

Simplify x^{-4}

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

Simplify $\left(\frac{5x^2}{3y}\right)^{-3}$

$$\frac{27y^3}{125x^6}$$

Simplify $\frac{x^5}{x^8}$

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

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

$$\frac{x^4}{y^4}$$

Simplify $\frac{x^3y^8}{x^5y^5}$

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

Simplify $\frac{2x^{-3}y^2}{4x^{-1}y}$

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

Solutions – Negative & Zero Indices (I)

$$\text{Simplify } \left(\frac{3x^2}{4y^2}\right)^{-2}$$
$$\frac{9x^4}{16y^4}$$

$$\text{Simplify } \frac{2x^{-3}y^2}{4x^{-1}y}$$
$$\frac{y}{2x^2}$$

$$\text{Simplify } \frac{x^5}{x^6}$$
$$\frac{1}{x}$$

$$\text{Simplify } \frac{x^2y^8}{x^4y^3}$$
$$\frac{y^5}{x^2}$$

$$\text{Simplify } x^0$$

$$1$$

$$\text{Simplify } \frac{x^4y^5}{x^9y^8}$$
$$\frac{1}{x^5y^3}$$

Solutions – Negative & Zero Indices (J)

$$\text{Simplify } \frac{2x^{-3}y^2}{4x^{-1}y}$$
$$\frac{y}{2x^2}$$

$$\text{Simplify } \frac{x^3y^4}{x^8y^5}$$
$$\frac{1}{x^5y}$$

$$\text{Simplify } \frac{x^4y^4}{x^6y^3}$$
$$\frac{y}{x^2}$$

$$\text{Simplify } x^{-5}$$
$$\frac{1}{x^5}$$

$$\text{Simplify } \frac{x^2}{x^5}$$
$$\frac{1}{x^3}$$

$$\text{Simplify } \frac{x^2y^{-3}}{x^{-2}y}$$
$$\frac{x^4}{y^4}$$