

Corrigé

Simplifie les expressions suivantes :

$$\left(\frac{30^{-2}x^{-5}y^{-3}}{5^{-4}x^7y^{-11}}\right)^{\frac{1}{2}} = \frac{5}{6} \cdot x^{-6} \cdot y^4 = \boxed{\frac{5y^4}{6x^6}}$$

$$\boxed{\frac{5y^4}{6x^6}}$$

$$\frac{(30^{-2})^{\frac{1}{2}}}{(5^{-4})^{\frac{1}{2}}} = \frac{30^{-1}}{5^{-2}} = \frac{5^2}{30^1} = \boxed{\frac{5}{6}}$$

Expo x: $-5-7=-12$; $(-12) \cdot \frac{1}{2} = -6$

Expo y: $-3-(-11)=8$; $8 \cdot \frac{1}{2} = 4$

$$\left(\frac{18^{-4}a^{-8}b^{10}}{3^{-6}a^2b^4c^3}\right)^{-\frac{1}{2}} = 12 \cdot a^5 \cdot b^{-3} \cdot c^{\frac{3}{2}} = \boxed{\frac{12a^5c^{\frac{3}{2}}}{b^3}}$$

$$\boxed{\frac{12a^5c^{\frac{3}{2}}}{b^3}}$$

$$\frac{(18^{-4})^{-\frac{1}{2}}}{(3^{-6})^{-\frac{1}{2}}} = \frac{18^2}{3^3} = \frac{6 \cdot 18^2}{3 \cdot 3 \cdot 3} = 12$$

Expo a: $-8-2=-10$; $-10 \cdot -\frac{1}{2} = 5$

Expo b: $10-4=6$; $6 \cdot -\frac{1}{2} = -3$

Expo c: $0-3=-3$; $-3 \cdot -\frac{1}{2} = \frac{3}{2}$

$$\left(\frac{24^{-3}x^5y^{-8}}{3^{-6}x^{-1}y}\right)^{\frac{1}{3}} = -\frac{3}{8} \cdot x^2 \cdot y^{-3} = \boxed{-\frac{3x^2}{8y^3}}$$

$$\boxed{-\frac{3x^2}{8y^3}}$$

$$\left(\frac{24^{-3}}{3^{-6}}\right)^{\frac{1}{3}} = \frac{24^{-1}}{3^{-2}} = -\frac{3^2}{24^1} = -\frac{3 \cdot 3}{24} = -\frac{3}{8}$$

Expo x: $5-(-1)=6$; $6 \cdot \frac{1}{3} = 2$

Expo y: $-8-1=-9$; $-9 \cdot \frac{1}{3} = -3$