





Repaso

Simplificar Expresiones con
Exponentes Racionales





Simplifica cada expresión.

$$1) \frac{27x^{-5}}{18x^3y^{-3}} = \frac{\cancel{27}y^3}{\cancel{18}x^3x^5} = \frac{3y^3}{2x^8}$$

$$2) \left(\frac{16x^8}{y^{-4}}\right)^{\frac{3}{4}} = \frac{16^{\frac{3}{4}}x^6}{y^{-3}} = 16^{\frac{3}{4}}x^6y^3 = 8x^6y^3$$



$$3) \left(\frac{9a^{\frac{1}{3}}a^{\frac{1}{2}}}{a^{\frac{-1}{6}}}\right)^{-\frac{1}{2}} = \frac{9^{\frac{-1}{2}}a^{\frac{-1}{6}}a^{\frac{-1}{4}}}{a^{\frac{1}{12}}} = \frac{1}{9^{\frac{1}{2}}a^{\frac{1}{6}}a^{\frac{1}{4}}a^{\frac{1}{12}}} = \frac{1}{3a^{\frac{1}{2}}}$$

$$4) \left(\frac{25a^3b^{-2}}{16a^4b^3}\right)^{-\frac{3}{2}} = \frac{25^{\frac{-3}{2}}a^{\frac{-9}{2}}b^3}{16^{\frac{-3}{2}}a^{-6}b^{\frac{-9}{2}}} = \frac{16^{\frac{3}{2}}a^6b^3b^{\frac{9}{2}}}{25^{\frac{3}{2}}a^2} = \frac{64a^{\frac{3}{2}}b^{\frac{15}{2}}}{125}$$

$$5) \left(\frac{x^{-1}}{x^{\frac{2}{3}}}\right)^{\frac{-1}{4}} = \frac{x^{\frac{1}{8}}}{x^{\frac{-1}{6}}} = x^{\frac{1}{8}}x^{\frac{1}{6}} = x^{\frac{7}{24}}$$



$$6) \left(\frac{27x^{-3}}{8y^6}\right)^{-\frac{4}{3}} = \frac{27^{\frac{-4}{3}}x^4}{8^{\frac{-4}{3}}y^{-8}} = \frac{8^{\frac{4}{3}}x^4y^8}{27^{\frac{4}{3}}} = \frac{16x^4y^8}{81}$$

$$7) \frac{6a^{\frac{2}{3}}b^{\frac{-1}{4}}}{9a^{\frac{1}{2}}b^{\frac{3}{4}}} = \frac{\cancel{6}a^{\frac{2}{3}}}{\cancel{9}a^{\frac{1}{2}}b^{\frac{1}{4}}b^{\frac{3}{4}}} = \frac{2a^{\frac{1}{6}}}{3b}$$

$$8) (8^{-1}x^{-2}y^{-3})^{-\frac{4}{3}} = 8^{\frac{4}{3}}x^{\frac{8}{3}}y^4 = 16x^{\frac{8}{3}}y^4$$
