

Exponents Review

1. Simplify

a) $32^{\frac{1}{5}}$. b) $27^{\frac{-2}{3}}$. c) $\left(-\frac{3}{4}\right)^3$. d) $1024^{\frac{-4}{5}}$. e) $\left(\frac{-8}{27}\right)^{\frac{-2}{3}}$

f) $0.25^{\frac{3}{2}}$. g) $(8x^3)^{\frac{1}{3}}$. h) $-32^{\frac{2}{5}}$. i) $\left((0.75)^{\frac{1}{4}}\right)^{\frac{4}{3}}$. j) $(16x^8)^{\frac{3}{4}}$.

k) $(a^3b^6)^{\frac{2}{3}}$. l) $\left((a+b)^{\frac{1}{5}}\right)^{10}$. m) $(243x^{10})^{\frac{4}{5}}$. n) $(x^2)^{x-1}$. o) $(2^{x+1})^{x-1}$.

p) $\frac{1}{2}x^{\frac{1}{2}} + \frac{1}{2}x^{\frac{1}{2}}$. q) $\frac{(2^{24})(2^{15})}{(2^{11})^3}$. r) $\frac{\left(\frac{1}{8}\right)^x}{2^{-3x}}$. s) $\left(\sqrt[4]{x^3}\right)^2$

t) $\sqrt[3]{\frac{-1}{8}x^6}$. u) $\left(4^{\frac{1}{2}} + 4^{\frac{-1}{2}}\right)^2$. v) $\left(32^{\frac{5}{6}}\right)\left(2^{\frac{5}{6}}\right)$

v) $\frac{48a^{\frac{4}{3}}b^{\frac{2}{5}}}{16a^{\frac{-1}{3}}b^{\frac{7}{5}}}$. w) $\left(\sqrt[5]{\frac{5}{8 \cdot 12}}\right)^4$. x) $\frac{48a^{\frac{4}{3}}b^{\frac{2}{5}}}{16a^{\frac{-1}{3}}b^{\frac{7}{5}}}$. y) $\left(\frac{(2x^{-1})^3}{2(y^{-1})^{-3}}\right)^2$

2. $\sqrt{\sqrt{\sqrt{x}}}$ is written as x^m . Find the value of m .