September 1, 2015

$\left(\frac{a}{b}\right)^{-n} = \left(\frac{b}{a}\right)^{n} = \frac{b^n}{a^n}$

$\frac{a^{-n}}{b^{-n}} = \frac{1}{a^n} \cdot \frac{b^n}{1} = \frac{b^n}{a^n}$

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#4) $(a \cdot b)^n = a^n \cdot b^n$

$\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$

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8.1

e.g 2.f $\left(\frac{8}{27}\right)^{-2/3}$ neg. Exp.

$= \frac{8}{27^{-2/3}}$ #4

$= \frac{27^{2/3}}{8^{2/3}}$ #5 $= \frac{\left(27^{1/3}\right)^2}{\left(8^{1/3}\right)^2}$

$= \frac{(3)^2}{(2)^2}$ Def.

$= \frac{9}{4}$

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2.g $\frac{\left(x^{-5/6} \cdot x^{3}\right)^{-2/3}}{x^{1/3}}$

$\frac{x^{\left(-\frac{5}{6}\right)\left(-\frac{2}{3}\right)} \cdot x^{\left(\frac{3}{1}\right)\left(-\frac{2}{3}\right)}}{x^{1/3}}$ #4

$\frac{x^{\frac{10}{18}} \cdot x^{-2}}{x^{1/3}}$ #3

$\frac{x^{\frac{5}{9}}}{x^{1/3} \cdot x^{2}} = \frac{x^{\frac{5}{9}}}{x^{\frac{1}{3}+\frac{2}{1}} = \frac{1+6}{3} = \frac{7}{3}}$ #2

$\frac{x^{\frac{5}{9}}}{x^{\frac{10}{3}}} = x^{\frac{5}{9}-\frac{10}{3} = \frac{5-30}{9}} = -\frac{25}{9}$ #2

$x^{-\frac{25}{9}} = \frac{1}{x^{\frac{25}{9}}}$ #5

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2.h

$\left(\frac{49c^{5/3}}{a^{-1/4}b^{5/6}}\right)^{-3/2} = \frac{49^{-3/2} \cdot (c)^{-3/2}}{(a)^{-1/4} \cdot (b)^{5/6}}$ $\frac{5}{3}$ $-\frac{3}{2}$ $-\frac{1}{4}$ $-\frac{3}{2}$ $\frac{5}{6}$ $-\frac{3}{2}$

$= \frac{49^{-3/2} \cdot c^{-\frac{15}{6} = \frac{5}{2}}}{a^{3/8} \cdot b^{-\frac{15}{12} = -\frac{5}{4}}}$

$= \frac{b^{5/4}}{49^{3/2} a^{3/8} \cdot c^{5/2}}$

$49^{3/2} = (49^{1/2})^3 = (7)^3 = 343$

$= \frac{b^{5/4}}{343 a^{3/8} c^{5/2}}$

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8.1 #1 – #75 m3

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