

PROPERTIES

1.  $X^m \cdot X^n = X^{m+n}$

2.  $\frac{X^m}{X^n} = X^{m-n}$

3.  $(X^m)^n = X^{m \cdot n}$

4.  $(X \cdot Y)^n = X^n \cdot Y^n$

5.  $X^0 = 1$

6.  $X^{-n} = \frac{1}{X^n}$

7.  $\frac{1}{X^{-3}} = \frac{X^3}{1} = X^3$

①  $\frac{1}{4} \cdot \frac{1}{4} = \frac{1}{16}$

$\frac{1}{4} + \frac{1}{4} = \frac{2}{4} = \frac{1}{2}$

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⑧

②  $\frac{5^4}{5^4} = 1$

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$\frac{1}{5^4}$

④  $\frac{y^{\frac{1}{3}}}{y^{\frac{5}{10}}}$

⑤

$(16^{\frac{1}{10}})^{\frac{1}{6}}$

$(16^{\frac{1}{10}})^{\frac{1}{6}}$

$16^{\frac{1}{60}}$

$\sqrt[6]{16}$

$\sqrt[4]{4}$

4

⑥  $(25^{\frac{1}{3}} \cdot 5^{\frac{11}{3}})^{-2}$

$(5^2)^{\frac{1}{3}} \cdot 5^{\frac{11}{3}}$

$(5^{\frac{2}{3}} \cdot 5^{\frac{11}{3}})^{-2}$

$(5^{\frac{13}{3}})^{-2}$

$(5^{\frac{26}{3}})^{-2}$

$(\frac{5^3}{1})^{-2}$

$(\frac{5^3}{1})^{-2}$

$(\frac{125}{1})^{-2}$

$(\frac{1}{125})^2$

$(\frac{1}{125})^2$

$\frac{1}{125^2}$

$\frac{1}{15625}$

⑦

$(\frac{a^{\frac{1}{3}}}{b^{\frac{1}{3}}})^{-3} \cdot (\frac{a^{-3}}{b^{\frac{1}{6}}})^{\frac{1}{6}}$

$(\frac{a^{\frac{1}{3}}}{b^{\frac{1}{3}}})^{-3} \cdot (\frac{b^{\frac{1}{6}}}{a^3})^{\frac{1}{6}}$

$\frac{a^{\frac{1}{3}}}{b^{\frac{1}{3}}} \cdot \frac{b^{\frac{1}{6}}}{a^3}$

$\frac{a^{\frac{1}{3}}}{b^{\frac{1}{3}}} \cdot \frac{b^{\frac{1}{6}}}{a^3}$

$\frac{b^{\frac{1}{6}}}{a^{\frac{9}{2}}}$

⑧