

Radicals are fractional exponents

Get rid of parentheses

Negative exponents are fractions

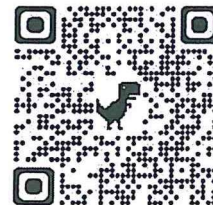
Clean it up

multiply
divide/reduce
evaluate

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Algebra II



Given Radicals

Express the following without using radicals:

1. $\sqrt[3]{x^{-2}y^5}$

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

2. $\sqrt[3]{27x^6y^{-8}}$

$(27x^6y^{-8})^{\frac{1}{3}}$
 $\frac{27^{\frac{1}{3}}x^2y^{-\frac{8}{3}}}{1}$

$\frac{27^{\frac{1}{3}}x^2}{y^{\frac{8}{3}}}$

$\frac{\sqrt[3]{27}}{3}$

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

3. $\sqrt[3]{25x^3y^4}$

$(25x^3y^4)^{\frac{1}{3}}$
 $\sqrt[3]{25}$
 $\frac{25^{\frac{1}{3}}x^1y^{\frac{4}{3}}}{5}$
 $5x^{\frac{3}{3}}y^{\frac{4}{3}}$

4. $\sqrt[3]{64x^{-5}y^{-8}}$

$(64x^{-5}y^{-8})^{\frac{1}{3}}$
 $\frac{64^{\frac{1}{3}}x^{-\frac{5}{3}}y^{-\frac{8}{3}}}{1}$

$\frac{64^{\frac{1}{3}}}{x^{\frac{5}{3}}y^{\frac{8}{3}}}$

$\frac{\sqrt[3]{64}}{4}$

$\frac{4}{x^{\frac{5}{3}}y^{\frac{8}{3}}}$

5. The expression $\sqrt[4]{16x^2y^7}$ is equivalent to

- 1) $2x^{\frac{1}{2}}y^{\frac{7}{4}}$
- 2) $2x^8y^{28}$
- 3) $4x^{\frac{1}{2}}y^{\frac{7}{4}}$
- 4) $4x^8y^{28}$

$(16x^2y^7)^{\frac{1}{4}}$
 $\sqrt[4]{16}$
 2

$16^{\frac{1}{4}}x^{\frac{2}{4}}y^{\frac{7}{4}}$
 $2x^{\frac{1}{2}}y^{\frac{7}{4}}$

6. The expression $\sqrt[4]{81x^2y^5}$ is equivalent to

- 1) $3x^{\frac{1}{2}}y^{\frac{5}{4}}$
- 2) $3x^{\frac{1}{2}}y^{\frac{4}{5}}$
- 3) $9xy^{\frac{5}{2}}$
- 4) $9xy^{\frac{2}{5}}$

$(81x^2y^5)^{\frac{1}{4}}$

$\sqrt[4]{81}$
 3

$81^{\frac{1}{4}}x^{\frac{2}{4}}y^{\frac{5}{4}}$

$3x^{\frac{1}{2}}y^{\frac{5}{4}}$