

RADICALS AND FRACTIONS

1. NO FRACTIONS INSIDE OF A RADICAL
2. NO RADICALS IN DENOMINATOR

PROPERTY

$$\sqrt[p]{\frac{M}{N}} = \frac{\sqrt[p]{M}}{\sqrt[p]{N}}$$

17 $\sqrt{\frac{2}{9}}$

$$\frac{\sqrt{2}}{\sqrt{9}}$$

$$\frac{\sqrt{2}}{\sqrt{3 \cdot 3}}$$

$\frac{\sqrt{2}}{3}$

18 $\sqrt[3]{\frac{-8a^{33}}{27b^{15}}}$

$$\frac{\sqrt[3]{-8a^{33}}}{\sqrt[3]{27b^{15}}}$$

$$\frac{-a^{11} \sqrt[3]{8}}{b^5 \sqrt[3]{27}}$$

$$\frac{-a^{11} \sqrt[3]{2 \cdot 2 \cdot 2}}{b^5 \sqrt[3]{3 \cdot 3 \cdot 3}}$$

$$33 \div 3 = 11 \text{ r } 0$$

$$15 \div 3 = 5 \text{ r } 0$$

$\frac{-2a^{11}}{3b^5}$

19 $\frac{\sqrt[3]{128}}{\sqrt[3]{2}}$

$$\sqrt[3]{\frac{128}{2}}$$

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

$$\sqrt[3]{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2}$$

$$2 \cdot 2 = 4$$

20

$$\frac{\sqrt{225m^9n^4}}{\sqrt{5m^2n^6}}$$

$$\sqrt{\frac{225m^9n^4}{5m^2n^6}}$$

$$\sqrt{\frac{45m^7n^2}{n^4}}$$

$$\frac{\sqrt{45m^7n^2}}{\sqrt{n^4}}$$

$$\frac{m^4 \sqrt{3 \cdot 3 \cdot 5}}{n^2}$$

$\frac{3m^4 \sqrt{5}}{n^2}$

$$\begin{matrix} m's \\ 8 \div 2 = 4 \text{ r } 0 \\ \text{out} \quad \text{in} \end{matrix}$$

$$\begin{matrix} n's \\ 2 \div 2 = 1 \text{ r } 0 \\ \text{out} \quad \text{in} \end{matrix}$$

21 $\frac{\sqrt{144a^{10}b^{-2}}}{\sqrt{6a^{-12}b^6}}$

$$\sqrt{\frac{144a^{10}b^{-2}}{6a^{-12}b^6}}$$

$$\sqrt{\frac{24a^{10}a^{12}}{b^6b^2}}$$

$$\sqrt{\frac{24a^{22}}{b^8}}$$

$$\frac{\sqrt{24a^{22}}}{\sqrt{b^8}}$$

$$\frac{a^{11} \sqrt{2 \cdot 2 \cdot 2 \cdot 3}}{b^4}$$

$\frac{2a^{11} \sqrt{6}}{b^4}$

$$\begin{matrix} a's \\ 22 \div 2 = 11 \text{ r } 0 \\ \text{out} \quad \text{in} \end{matrix}$$

$$\begin{matrix} b's \\ 8 \div 2 = 4 \text{ r } 0 \\ \text{out} \quad \text{in} \end{matrix}$$