MATEMÁTICA

AGORA É COM VOCÊ!

Usando as propriedades dos radicais, simplifique:

$$\sqrt[4]{2^4.5^8} =$$

$$\sqrt[4]{2^4}.\sqrt[4]{5^4}.\sqrt[4]{5^4} =$$

$$2.5.5 = 50$$

$$\sqrt{\frac{81}{4}} = \frac{\sqrt{81}}{\sqrt{4}}$$

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

PROPRIEDADES DOS RADICAIS:
SIMPLIFICANDO RADICAIS

$$\sqrt{50} =$$

$$= \sqrt{2}.\sqrt{5^2}$$

$$= 5\sqrt{2}$$

$$\sqrt{18} =$$

$$= \sqrt{2}.\sqrt{3^2}$$

$$= 3\sqrt{2}$$

Radicais SEMELHANTES: mesmo radical

$$\sqrt{1200} = \sqrt{12 \times 100} = \sqrt{12} \times \sqrt{100}$$

$$= \sqrt{2^2 \times 3} \times \sqrt{10^2}$$

$$= \sqrt{2^2} \times \sqrt{3} \times \sqrt{10^2}$$

$$= 2.10.\sqrt{3}$$

$$= 20\sqrt{3}$$

$$\sqrt[3]{27x^6y^3} = \sqrt[3]{27}.\sqrt[3]{x^6}.\sqrt[3]{y^3}$$

$$= \sqrt[3]{3^3}.\sqrt[3]{x^6}.\sqrt[3]{y^3}$$

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

$$= 3x^2y$$

$$\sqrt[3]{\frac{625}{64}} = \frac{\sqrt[3]{625}}{\sqrt[3]{64}} = \frac{\sqrt[3]{5^3.5}}{\sqrt[3]{2^6}} =$$

$$\frac{\sqrt[3]{5^3}.\sqrt[3]{5}}{\sqrt[3]{2^6}} = \frac{5\sqrt[3]{5}}{2^{\frac{6}{3}}} = \frac{5\sqrt[3]{5}}{2^2} = \frac{5\sqrt[3]{5}}{4}$$

Introduzir fatores externos no radicando.

Observe...

$$\sqrt{20} = \sqrt{2^2}.\sqrt{5} = 2\sqrt{5}$$

Fazendo o caminho inverso...

$$2\sqrt{5} = \sqrt{2^2.5} = \sqrt{20}$$

$$2\sqrt[3]{2} = \sqrt[3]{2^3.2} = \sqrt[3]{8.2} = \sqrt[3]{16}$$

$$3x\sqrt[3]{x} = \sqrt[3]{3^3.x^3.x} = \sqrt[3]{27.x^{3+1}}$$

$$= \sqrt[3]{27x^4}$$