

The background features a dark purple grid pattern overlaid with several thick, overlapping diagonal lines in yellow, orange, red, green, and dark blue. The word 'MATEMÁTICA' is written in white, bold, uppercase letters across the center, following the angle of the lines.

MATEMÁTICA

AGORA É COM VOCÊ...

Aplicando a propriedade distributiva, calcule:

$$\begin{aligned} 2\sqrt{3} \cdot (\sqrt{3} + 2) &= 2\sqrt{3} \cdot \sqrt{3} + 2 \cdot 2\sqrt{3} \\ &= 2(\sqrt{3})^2 + 4\sqrt{3} = 6 + 4\sqrt{3} \end{aligned}$$

Potenciação com radicais

$$(3\sqrt{2})^2 = 3^2 \times \sqrt{2^2} = 9 \times 2 = 18$$

$$\begin{aligned} \left(\sqrt[3]{3^2}\right)^2 &= \left(\sqrt[3]{3^{2 \times 2}}\right) = \sqrt[3]{3^4} = \sqrt[3]{3^3} \cdot \sqrt[3]{3} \\ &= 3\sqrt[3]{3} \end{aligned}$$

Quadrado da soma de dois termos:

$$\begin{aligned}(\sqrt{2} + 2)^2 &= (\sqrt{2})^2 + 2 \cdot 2 \cdot \sqrt{2} + 2^2 \\ &= 2 + 4\sqrt{2} + 4 \\ &= 6 + 4\sqrt{2}\end{aligned}$$

Quadrado da diferença de dois termos:

$$\begin{aligned}(\sqrt{2} - 2)^2 &= (\sqrt{2})^2 - 2 \cdot 2 \cdot \sqrt{2} + 2^2 \\ &= 2 - 4\sqrt{2} + 4 \\ &= 6 - 4\sqrt{2}\end{aligned}$$

Racionalização de denominadores

Um quociente não se altera quando multiplicamos o dividendo e o divisor por um mesmo número.

$$3 : 5 = \frac{3 \times 2}{5 \times 2} = \frac{6}{10}$$

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

$$\frac{2}{3\sqrt{3}} = \frac{2 \times \sqrt{3}}{3\sqrt{3} \times \sqrt{3}} = \frac{2\sqrt{3}}{3\sqrt{3^2}} = \frac{2\sqrt{3}}{9}$$

$$\begin{aligned}
 \frac{1}{\sqrt[3]{2}} &= \frac{1 \times \sqrt[3]{2^2}}{\sqrt[3]{2} \times \sqrt[3]{2^2}} = \frac{\sqrt[3]{2^2}}{\sqrt[3]{2^{1+2}}} = \frac{\sqrt[3]{2^2}}{\sqrt[3]{2^3}} = \\
 &= \frac{\sqrt[3]{2^2}}{2} = \frac{\sqrt[3]{4}}{2}
 \end{aligned}$$