

The background features a dark purple grid pattern. Overlaid on this are several thick, diagonal lines in various colors: yellow, orange, red, purple, green, and dark blue. The word 'MATEMÁTICA' is written in white, bold, uppercase letters, slanted to follow the path of one of the yellow 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.

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

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

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

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