

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, slanted to follow the angle of the lines.

**MATEMÁTICA**

# AGORA É COM VOCÊ...

**Simplifique a expressão:**

$$\sqrt{20} + \sqrt{45} =$$

$$2\sqrt{5} + 3\sqrt{5} =$$

$$(2 + 3)\sqrt{5} = 5\sqrt{5}$$

## Multiplicação com radicais

$$\sqrt[4]{2} \cdot \sqrt[4]{8} = \sqrt[4]{2 \cdot 8} = \sqrt[4]{16} =$$

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

## FATORES EXTERNOS

$$-4\sqrt{3} \times 2\sqrt{2} =$$

$$(-4 \times 2)\sqrt{3 \times 2} =$$


$$-8\sqrt{6}$$

$$\left(-2\sqrt{3}\right) \times \left(-\sqrt{3}\right) =$$

$$\left(-2\right) \cdot \left(-1\right) \sqrt{3^2} =$$

$$2 \cdot 3 = 6$$

Usando a propriedade distributiva:


$$\begin{aligned}\sqrt{7} \cdot (1 - \sqrt{7}) &= \sqrt{7} \cdot 1 - \sqrt{7} \cdot \sqrt{7} \\ &= \sqrt{7} - \sqrt{7^2} \\ &= \sqrt{7} - 7\end{aligned}$$

$$(\sqrt{2} + 2)(3\sqrt{2} - 3) =$$

$$3\sqrt{2}^2 - 3 \cdot \sqrt{2} + 2 \cdot 3\sqrt{2} - 2 \cdot 3 =$$

$$\cancel{6} - 3\sqrt{2} + 6\sqrt{2} - \cancel{6} = 3\sqrt{2}$$

**Produto da soma pela diferença de dois termos:**

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



## Divisão com radicais

$$\sqrt[3]{20} : \sqrt[3]{10} = \sqrt[3]{20 : 10} = \sqrt[3]{2}$$

$$30\sqrt{15} : 5\sqrt{3} = (30 : 5)\sqrt{15 : 3} = 6\sqrt{5}$$

$$(12\sqrt{6} - 2\sqrt{10}) : (2\sqrt{2}) =$$

$$\frac{12\sqrt{6}}{2\sqrt{2}} - \frac{2\sqrt{10}}{2\sqrt{2}} = 6\sqrt{3} - \sqrt{5}$$