

The background features a dark purple grid pattern. Overlaid on this are several thick, overlapping 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 the yellow lines.

MATEMÁTICA

AGORA É COM VOCÊ...

Resolva as expressões:

$$\sqrt{7} - 9 =$$

$$2,6 - 9 =$$

$$-6,4$$

$$\sqrt{7} + 9 =$$

$$2,6 + 9 =$$

$$11,6$$

$$2 < \sqrt{7} < 3$$

$$2,6 \times 2,6 = 6,76$$

$$2,7 \times 2,7 = 7,29$$

RADICAIS

ADIÇÃO ALGÉBRICA

Radicais semelhantes: são aqueles que possuem o mesmo índice e o mesmo radicando.

$$-\sqrt{3} \quad 2\sqrt{3} \quad xy\sqrt{3} \quad \sqrt{3}$$

$$\sqrt[3]{7} \quad -4\sqrt[3]{7} \quad ab\sqrt[3]{7} \quad -\sqrt[3]{7}$$

Para efetuar a adição algébrica com radicais, simplificamos os radicais e reduzimos os termos semelhantes, somando os fatores externos.

$$\begin{aligned} & \underbrace{3\sqrt{5} + 2\sqrt{5} - 7\sqrt{5}} = \\ & (3 + 2 - 7)\sqrt{5} = \\ & -2\sqrt{5} \end{aligned}$$

$$10\sqrt[3]{2} - 4\sqrt[3]{2} =$$

$$(10 - 4)\sqrt[3]{2} =$$

$$6\sqrt[3]{2}$$

$$-5 + \sqrt[5]{5} + 3\sqrt[5]{5} - 5 =$$

$$(-5 - 5) + (1 + 3)\sqrt[5]{5} =$$

$$-10 + 4\sqrt[5]{5}$$

$$4\sqrt{2} + 6\sqrt{3} - 2\sqrt{2} + 9\sqrt{3} =$$

$$(4 - 2)\sqrt{2} + (6 + 9)\sqrt{3} =$$

$$2\sqrt{2} + 15\sqrt{3}$$

Primeiramente devemos simplificar os radicais:

$$\begin{aligned} & \sqrt{50} + \sqrt{18} - \sqrt{8} = \\ & \sqrt{2 \cdot 5^2} + \sqrt{2 \cdot 3^2} - \sqrt{2 \cdot 2^2} = \\ & \underbrace{5}_{\downarrow} \sqrt{2} + \underbrace{3}_{\downarrow} \sqrt{2} - \underbrace{2}_{\downarrow} \sqrt{2} = \\ & (5 + 3 - 2) \sqrt{2} = \\ & 6\sqrt{2} = \end{aligned}$$

$$\begin{array}{r|l} 50 & 2 \\ 25 & 5 \\ \hline 5 & 5 \\ 1 & 2 \cdot 5^2 \end{array}$$

$$\begin{array}{r|l} 18 & 2 \\ 9 & 3 \end{array}$$

$$\begin{array}{r|l} 8 & 2 \\ 4 & 2 \\ \hline 2 & 2 \\ 1 & 2 \cdot 3^2 \end{array}$$

$$\begin{array}{r|l} 2 & 2 \\ \hline 1 & 2^3 \text{ ou } 2 \cdot 2^2 \end{array}$$

$$-2\sqrt{27} - 5\sqrt{12} =$$

$$-2 \cdot 3\sqrt{3} - 5 \cdot 2\sqrt{3} =$$

$$-6\sqrt{3} - 10\sqrt{3} =$$

$$(-6 - 10)\sqrt{3} =$$

$$-16\sqrt{3}$$

$$\sqrt{27} = 3\sqrt{3}$$

$$\sqrt{12} = 2\sqrt{3}$$