MATI1 - Matemática - Prof Luciano
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"Propriedade dos Radicais"

① $\left(-\frac{1}{243}\right)^{-2/5} = \sqrt[5]{\left(-\frac{1}{243}\right)^{-2}} = \sqrt[5]{\frac{1^2}{243^2}} = \sqrt[5]{\frac{1}{59049}}$

59049	3
19683	3
6561	3
2187	3
729	3
243	3
81	3
27	3
9	3
3	3
1	$3^5 \cdot 3^5$

$= \sqrt[5]{3^5 \cdot 3^5} = 3 \cdot 3 = 9$ letra C

③ $\sqrt[4]{8} = 1,68$

$\sqrt{\frac{0,09}{\sqrt{2}}} = \sqrt{\frac{9 \cdot 10^{-2}}{2^{1/2}}} = \frac{3 \cdot 10^{-1}}{\sqrt[4]{2}} = \frac{3}{10\sqrt[4]{2}} = \frac{3\sqrt[4]{2^3}}{20}$

$= \frac{3 \cdot \sqrt[4]{8}}{20} = \frac{3 \cdot 1,68}{20} = \frac{5,04}{20} = 0,252$ letra B

④ $\frac{2-\sqrt{2}}{\sqrt{2}-1} \cdot \frac{(\sqrt{2}+1)}{(\sqrt{2}+1)} = \frac{2\sqrt{2} + 2 + (\sqrt{2}) \cdot (-\sqrt{2}) + (-\sqrt{2}) \cdot 1}{(\sqrt{2})^2 - 1^2}$

$= \frac{2\sqrt{2} + \cancel{2} - \cancel{2} - \sqrt{2}}{2-1} = 2\sqrt{2} - \sqrt{2} = \sqrt{2}$ letra A

⑤ $\frac{10}{\sqrt{18} + 2\sqrt{2}}$ $\sqrt{18} = 3\sqrt{2} \Rightarrow \frac{10}{3\sqrt{2} + 2\sqrt{2}} = \frac{10}{5\sqrt{2}} \cdot \frac{5\sqrt{2}}{5\sqrt{2}}$

$\Rightarrow \frac{50\sqrt{2}}{25 \cdot 2} = \frac{\cancel{50}\sqrt{2}}{\cancel{50}} = \sqrt{2}$ letra A

⑥

I. $\sqrt[3]{-27} = -\sqrt[3]{3^3} = -3$ (V)

II. $5^{-1/2} = \left(\frac{1}{5}\right)^{1/2} = \sqrt{\frac{1}{5}}$ (F)

III. $\frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$ (V) letra C

IV. $\sqrt[3]{2^5} = 2^{5/3}$ (F)