

PROBLEMAS DE EXPRESIONES ALGEBRAICAS Y OPERACIONES

Problema 29:

Resolver

A) $\sqrt{98} - \sqrt{50}$

B) $\sqrt{\frac{1}{3}} + \sqrt{27}$

C) $5\sqrt{125} + 6\sqrt{45}$

D) $\sqrt{\frac{42}{25}} - \sqrt{\frac{21}{8}}$

E) $5\sqrt{\frac{1}{2}} + 3\sqrt{\frac{1}{8}}$

Solución Problema 29:

$$\mathbf{A)} \sqrt{98} - \sqrt{50} = \sqrt{2x7^2x1} - \sqrt{2x5^2x1} = 7\sqrt{2} - 5\sqrt{2} = 2\sqrt{2}$$

$$\mathbf{B)} \sqrt{\frac{1}{3}} + \sqrt{27} = \sqrt{\frac{1}{3}} + \sqrt{3^2x3x1} = \frac{\sqrt{3}}{3} + 3\sqrt{3} = \frac{\sqrt{3}+9\sqrt{3}}{3} = \frac{10\sqrt{3}}{3}$$

$$\mathbf{C)} 5\sqrt{125} + 6\sqrt{45} = 5\sqrt{5x5^2x1} + 6\sqrt{5x3^2x1} = 5x5\sqrt{5} + 6x3\sqrt{5} \\ 25\sqrt{5} + 18\sqrt{5} = 43\sqrt{5}$$

$$\begin{aligned}
 \text{D) } \sqrt{\frac{42}{25}} + \sqrt{\frac{21}{8}} &= \sqrt{\frac{21x2}{5^2}} - \sqrt{\frac{21}{2x2^2}} = \frac{\sqrt{21x2}}{5} - \frac{\sqrt{21}}{2\sqrt{2}} = \\
 \frac{\sqrt{21x2}}{5} - \frac{\sqrt{21x2}}{4} &= \frac{4\sqrt{21x2} - 5\sqrt{21x2}}{20} = \frac{-\sqrt{42}}{20}
 \end{aligned}$$

$$\begin{aligned}
 \text{E) } 5\sqrt{\frac{1}{2}} + 3\sqrt{\frac{1}{8}} &= \frac{5}{\sqrt{2}} + 3\sqrt{\frac{1}{2x2^2}} = \frac{5\sqrt{2}}{2} + \frac{3}{2\sqrt{2}} = \\
 \frac{5\sqrt{2}}{2} + \frac{3\sqrt{2}}{2} &= \frac{5\sqrt{2}}{2} + \frac{3\sqrt{2}}{4} = \frac{10\sqrt{2} + 3\sqrt{2}}{4} = \frac{13\sqrt{2}}{4}
 \end{aligned}$$