

## Đáp án bài 58 trang 32 SGK toán đại số lớp tập 1

### Đề bài:

Rút gọn các biểu thức sau:

$$\text{a) } 5\sqrt{\frac{1}{5}} + \frac{1}{2}\sqrt{20} + \sqrt{5};$$

$$\text{b) } \sqrt{\frac{1}{2}} + \sqrt{4,5} + \sqrt{12,5};$$

$$\text{c) } \sqrt{20} - \sqrt{45} + 3\sqrt{18} + \sqrt{72};$$

$$\text{d) } 0,1.\sqrt{200} + 2.\sqrt{0,08} + 0,4.\sqrt{50}.$$

### Đáp án:

a) Ta có:

$$\begin{aligned} & 5\sqrt{\frac{1}{5}} + \frac{1}{2}\sqrt{20} + \sqrt{5} \\ &= \sqrt{5^2 \cdot \frac{1}{5}} + \sqrt{\left(\frac{1}{2}\right)^2 \cdot 20} + \sqrt{5} \\ &= \sqrt{25 \cdot \frac{1}{5}} + \sqrt{\frac{1}{4} \cdot 20} + \sqrt{5} \\ &= \sqrt{\frac{25}{5}} + \sqrt{\frac{20}{4}} + \sqrt{5} \\ &= \sqrt{5} + \sqrt{5} + \sqrt{5} \\ &= (1 + 1 + 1)\sqrt{5} = 3\sqrt{5} \end{aligned}$$

b) Ta có:

$$\begin{aligned}
&= \sqrt{\frac{1}{2}} + \sqrt{\frac{9}{2}} + \sqrt{\frac{25}{2}} \\
&= \sqrt{\frac{1}{2}} + \sqrt{9 \cdot \frac{1}{2}} + \sqrt{25 \cdot \frac{1}{2}} \\
&= \sqrt{\frac{1}{2}} + \sqrt{3^2 \cdot \frac{1}{2}} + \sqrt{5^2 \cdot \frac{1}{2}} \\
&= \sqrt{\frac{1}{2}} + 3\sqrt{\frac{1}{2}} + 5\sqrt{\frac{1}{2}} \\
&= (1 + 3 + 5) \cdot \sqrt{\frac{1}{2}} \\
&= 9\sqrt{\frac{1}{2}} = 9 \frac{1}{\sqrt{2}} \\
&= 9 \cdot \frac{\sqrt{2}}{2} = \frac{9\sqrt{2}}{2}
\end{aligned}$$

c) Ta có:

$$\begin{aligned}
&\sqrt{20} - \sqrt{45} + 3\sqrt{18} + \sqrt{72} \\
&= \sqrt{4 \cdot 5} - \sqrt{9 \cdot 5} + 3\sqrt{9 \cdot 2} + \sqrt{36 \cdot 2} \\
&= \sqrt{2^2 \cdot 5} - \sqrt{3^2 \cdot 5} + 3\sqrt{3^2 \cdot 2} + \sqrt{6^2 \cdot 2} \\
&= 2\sqrt{5} - 3\sqrt{5} + 3 \cdot 3\sqrt{2} + 6\sqrt{2} \\
&= 2\sqrt{5} - 3\sqrt{5} + 9\sqrt{2} + 6\sqrt{2} \\
&= (2\sqrt{5} - 3\sqrt{5}) + (9\sqrt{2} + 6\sqrt{2}) \\
&= (2 - 3)\sqrt{5} + (9 + 6)\sqrt{2} \\
&= -\sqrt{5} + 15\sqrt{2} = 15\sqrt{2} - \sqrt{5}
\end{aligned}$$

d) Ta có:

$$\begin{aligned} & 0,1\sqrt{200} + 2\sqrt{0,08} + 0,4\sqrt{50} \\ &= 0,1\sqrt{100 \cdot 2} + 2\sqrt{0,04 \cdot 2} + 0,4\sqrt{25 \cdot 2} \\ &= 0,1\sqrt{10^2 \cdot 2} + 2\sqrt{0,2^2 \cdot 2} + 0,4\sqrt{5^2 \cdot 2} \\ &= 0,1 \cdot 10\sqrt{2} + 2 \cdot 0,2\sqrt{2} + 0,4 \cdot 5\sqrt{2} \\ &= 1\sqrt{2} + 0,4\sqrt{2} + 2\sqrt{2} \\ &= (1 + 0,4 + 2)\sqrt{2} = 3,4\sqrt{2} \end{aligned}$$