L3 Az $a\sqrt{b}$ alakú nevezők racionalizálása (50. oldal)

1. $\frac{1}{\sqrt{2}} \overset{\sqrt{2})}{=} \frac{\sqrt{2}}{2}$, $\frac{2}{\sqrt{3}} \overset{\sqrt{3})}{=} \frac{2\sqrt{3}}{3}$, $\frac{-5}{\sqrt{5}} \overset{\sqrt{5})}{=} \frac{-5\sqrt{5}}{5} \overset{(5}{=} -\sqrt{5}$, $\frac{9}{\sqrt{6}} \overset{\sqrt{6})}{=} \frac{9\sqrt{6}}{6} \overset{(3}{=} \frac{3\sqrt{6}}{2}$,

$\frac{10}{\sqrt{10}} \overset{\sqrt{10})}{=} \frac{10\sqrt{10}}{10} \overset{(10}{=} \sqrt{10}$, $\frac{-24}{\sqrt{30}} \overset{\sqrt{30})}{=} \frac{-24\sqrt{30}}{30} \overset{(6}{=} \frac{-4\sqrt{30}}{5}$.

2. $\frac{3}{\sqrt{8}} \overset{\sqrt{2})}{=} \frac{3}{2\sqrt{2}} = \frac{3\sqrt{2}}{2\cdot 2} = \frac{3\sqrt{2}}{4}$; $\frac{6}{\sqrt{12}} = \frac{6}{2\sqrt{3}} \overset{\sqrt{3})}{=} \frac{3}{\sqrt{3}} = \frac{3\sqrt{3}}{3} = \sqrt{3}$.

Ugyanígy számolva, a: $\frac{-4\sqrt{5}}{5}$; $\frac{\sqrt{6}}{6}$; $2\sqrt{2}$; $\frac{2\sqrt{7}}{7}$; $\frac{2\sqrt{b}}{b}$ eredményeket kapjuk.

3. $\frac{\sqrt{15}}{2}$; $\frac{2\sqrt{3}}{3}$; $-\frac{7\sqrt{3}}{2}$; $\frac{3\sqrt{6}}{4}$; $\frac{4\sqrt{5}}{5}$; $\frac{\sqrt{30}}{6}$.

4. **a)** $x = 2\sqrt{2} < \sqrt{10} = y$; **b)** $x = -4\sqrt{3} > -5\sqrt{2} = y$.

5. **a)** $\frac{\sqrt{6}}{36}$; **b)** $\frac{19\sqrt{2}}{12}$; **c)** $\frac{5\sqrt{3}}{3}$; **d)** 81. **6.** $A = \frac{1}{8} \in \mathbb{Q}$.

7. $\frac{1+\sqrt{2}}{\sqrt{3}+\sqrt{6}} = \frac{1+\sqrt{2}}{\sqrt{3}+\sqrt{3}\cdot\sqrt{2}} = \frac{1+\sqrt{2}}{\sqrt{3}\cdot(1+\sqrt{2})} = \frac{\sqrt{3}}{3} = \frac{\sqrt{a}}{b} \Rightarrow a = b = 3$.