

Fișa de exercitii- Operații cu numere reale- Clasa a VII

1. Sa se rationalizeze numitorii urmatoarelor fractii:

I.a) $\frac{3}{\sqrt{3}}$; b) $\frac{6}{\sqrt{18}}$; c) $\frac{\sqrt{27}}{6\sqrt{2}}$; d) $\frac{7\sqrt{3}}{\sqrt{56}}$; e) $-\frac{5\sqrt{6}}{6\sqrt{5}}$;

II.a) $\frac{2}{\sqrt{3}-\sqrt{2}}$; b) $\frac{-1}{1-\sqrt{5}}$; c) $\frac{3}{2\sqrt{3}-1}$; d) $\frac{-5\sqrt{3}+6}{\sqrt{3}-1}$; e) $\frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$; f) $\frac{\sqrt{3}}{2\sqrt{3}-5\sqrt{2}}$.

2. Efectuati:

a) $\frac{1}{\sqrt{2}+1} + \frac{1}{\sqrt{3}+\sqrt{2}} + \frac{1}{\sqrt{4}+\sqrt{3}} + \frac{1}{\sqrt{5}+\sqrt{4}} + \frac{1}{\sqrt{6}+\sqrt{5}}$;

c) $(2\sqrt{6}-5)^2 + \frac{18}{\sqrt{6}} - \frac{5}{\sqrt{6}-1}$

b) $\left(\frac{\sqrt{3}}{2} - 3\sqrt{2} + \frac{1}{\sqrt{3}} + \frac{1}{\sqrt{2}}\right) : \left(\frac{1}{2\sqrt{3}} - \frac{1}{\sqrt{2}}\right)$;

d) $\left(\frac{2\sqrt{3}}{2\sqrt{3}+3} - \frac{6}{5+3\sqrt{3}}\right) : \left(\frac{2\sqrt{3}}{6} - \frac{1}{2\sqrt{3}-3}\right)$

3. Comparati numerele: $a = (\sqrt{7} - \sqrt{5})^{-1}$ si $b = (\sqrt{5} - \sqrt{3})^{-1}$.

4. Se dau numerele: $x = \frac{5}{\sqrt{7}-\sqrt{2}} + \frac{2}{3+\sqrt{7}}$ si $y = \sqrt{(3-\sqrt{2})^2}$

a) calculati numerele;

b) calculati media aritmetica si geometrica a numerelor.