FORMULA RADICALILOR DUBLI

Calculați:

1) $\sqrt{7+\sqrt{24}}+\sqrt{2-\sqrt{3}}$

2) $\sqrt{3-2\sqrt{2}}-\sqrt{7-4\sqrt{3}}$

3) $\sqrt{7-2\sqrt{6}}+\sqrt{10-2\sqrt{21}}$

4) $\sqrt{7-\sqrt{24}}+\sqrt{7+4\sqrt{3}}$

5) $\sqrt{10+\sqrt{44}}-\sqrt{3+2\sqrt{2}}$

6) $\sqrt{7+4\sqrt{3}}-\sqrt{3-\sqrt{8}}$

7) $\sqrt{4+\sqrt{7}}-\sqrt{2+\sqrt{3}}$

8) $\sqrt{7+2\sqrt{6}}-\sqrt{7-4\sqrt{3}}$

9) $\sqrt{4-\sqrt{7}}+\sqrt{3+2\sqrt{2}}$

10) $\sqrt{2+\sqrt{3}}+\sqrt{7+4\sqrt{3}}$

Prof. Ovidiu Bădescu

Calculați

$$\sqrt{4-\sqrt{7}}+\sqrt{3+2\sqrt{2}}$$

E1) Folosim $\sqrt{A+\sqrt{B}}=\sqrt{\frac{A+\sqrt{A^2-B}}{2}}+\sqrt{\frac{A-\sqrt{A^2-B}}{2}}$

$$\sqrt{A-\sqrt{B}}=\sqrt{\frac{A+\sqrt{A^2-B}}{2}}-\sqrt{\frac{A-\sqrt{A^2-B}}{2}}$$

E2) $\sqrt{4-\sqrt{7}}=\sqrt{\frac{4+\sqrt{16-7}}{2}}-\sqrt{\frac{4-\sqrt{16-7}}{2}}=\sqrt{\frac{7}{2}}-\sqrt{\frac{1}{2}}=$

$$=\frac{\sqrt{7}}{\sqrt{2}}-\frac{1}{\sqrt{2}}=\frac{\sqrt{14}}{2}-\frac{\sqrt{2}}{2}=\frac{\sqrt{14}-\sqrt{2}}{2}$$

E3) $\sqrt{3+2\sqrt{2}}=\sqrt{3+\sqrt{8}}=\sqrt{\frac{3+\sqrt{9-8}}{2}}+\sqrt{\frac{3-\sqrt{9-8}}{2}}=$

$$=\sqrt{\frac{4}{2}}+\sqrt{\frac{2}{2}}=\sqrt{2}+1$$

E4) $N=\sqrt{4-\sqrt{7}}+\sqrt{3+2\sqrt{2}}=\frac{\sqrt{14}-\sqrt{2}}{2}+\sqrt{2}+1=$

$$=\frac{\sqrt{14}-\sqrt{2}+2\sqrt{2}+2}{2}=\frac{\sqrt{14}+\sqrt{2}+2}{2}$$

Prof. Ovidiu Bădescu