

## Calculule cu radicali

1) Stabiliti valoarea de adevar a propozitiilor :

a)  $\sqrt{3} + \sqrt{5} = \sqrt{8}$

b)  $2\sqrt{3} + \sqrt{3} = 2\sqrt{3}$

c)  $\sqrt{27} = 3\sqrt{3}$

d)  $\sqrt{27} - \left(\frac{1}{\sqrt{3}}\right)^{-1} \in \mathbb{Q}$

e)  $\sqrt{3} \cdot \sqrt{108} \in \mathbb{N}$

f)  $\sqrt{5} - \sqrt{3} = \sqrt{5-3}$

g)  $2\sqrt{2} \cdot 3\sqrt{2} = 12$

h)  $\frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

2) Calculati :

a)  $\sqrt{\frac{3^2 + 4^2}{25^2 - 15^2}}$

b)  $-7\sqrt{2} + 12\sqrt{2} + 2\sqrt{2} + \sqrt{2}$

c)  $\sqrt{192} - \sqrt{108}$

d)  $3\sqrt{45} - 4\sqrt{80} + 2\sqrt{20}$

e)  $4\sqrt{8} \cdot 3\sqrt{2} : 2\sqrt{2}$

f)  $\frac{3}{\sqrt{3}} + \frac{2}{3\sqrt{3}} - \frac{3}{2\sqrt{3}}$

g)  $\frac{4}{\sqrt{5} - \sqrt{2}} + \frac{3}{3 - \sqrt{5}}$

h)  $\frac{2 - 2\sqrt{6}}{3\sqrt{3}} - \frac{1 + \sqrt{6}}{2\sqrt{2}} + \frac{3 - 3\sqrt{6}}{5\sqrt{3}}$

i)  $2 - \sqrt{2\sqrt{576}}$

3) Calculati media aritmetica a numerelor x si y daca :

a)  $x = 2\sqrt{5} + 3\sqrt{7}$  si  $y = 2\sqrt{5} - 3\sqrt{7}$

b)  $x = (\sqrt{3} + \sqrt{2})(\sqrt{3} - \sqrt{2})$  si  $y = (2\sqrt{2})^2 : (-2)^2$

4) Calculati media geometrica a numerelor :

a)  $\sqrt{2} - 1$  si  $\sqrt{2} + 1$

b)  $\sqrt{3}$  si  $\sqrt{27}$