**Varianta 81**

**III.**

**13.** a) $a=\frac{2c}{5}=\frac{40c}{100}=40\%\cdot c$.

b) $a=2k,\ \ b=3k,\ \ c=5k.\ k^2=4$. Dar $k>0\Rightarrow k=2\Rightarrow a=4;\ b=6;\ c=10$.

**14.** a) $f(\sqrt{2})\cdot f(\sqrt{2}-1)=(2\sqrt{2}+1)(2\sqrt{2}-1)=\left(2\sqrt{2}\right)^2-1=8-1=7$.

b) $f(0)=1\Rightarrow A(0;1)$ și $f(1)=3\Rightarrow B(1;3)$ deci reprezentarea grafică este dreapta $AB$.

c) $[f(1)+f(2)+f(3)+...+f(n)]-2n=[(2\cdot 1+1)+(2\cdot 2+1)+(2\cdot 3+1)+...+(2\cdot n+1)]-2n=$

$=2\cdot\frac{n(n+1)}{2}-n=n^2+n-n=n^2,\ n\in\mathbf{N}^*\Rightarrow\sqrt{n^2}=n\in\mathbf{N}$.

**15.** b) $P_{ABC}=2AB+BC=32$ cm. $AO\perp(C(O)),\ \ B\in C(O).\ R_{con}=BO=\frac{BC}{2}=6$ cm.

c) $V_{con}=\frac{\pi R^2H}{3}\ V_{con}=\frac{\pi\cdot 6^2\cdot 8}{3}=96\pi$ cm$^3$.

d) $A_l=\pi\cdot\frac{60}{11}\left(6+\frac{30}{11}\right)=\frac{5760\pi}{121}$ cm$^2$.