Varianta 28

III.

13. a) Fie x numărul copiilor. Obiectul costă $20x+5$ lei, respectiv $30x-25$ lei, deci $20x+5=30x-25\Rightarrow 10x=30\Rightarrow x=3$.

b) Obiectul costă $20\cdot 3+5=65$ lei.

14. a) $2+a=\frac{5}{2}\Rightarrow a=\frac{1}{2};\ \frac{3}{2}-b=\frac{5}{2}\Rightarrow b=-1$.

b) $f(x)=2x+\frac{1}{2}$ şi $S=\left(2\cdot 1+\frac{1}{2}\right)+\left(2\cdot 2+\frac{1}{2}\right)+\left(2\cdot 3+\frac{1}{2}\right)+...+\left(2\cdot 20+\frac{1}{2}\right)=430$.

c) $2x+\frac{1}{2}\le 2\cdot\left(\frac{3}{2}x+1\right)+1\Rightarrow x\in\left[-\frac{5}{2};+\infty\right]$.

15. b) $\frac{l^3\sqrt{3}}{4}=54\sqrt{3}\Rightarrow l^3=6^3\Rightarrow l=6\Rightarrow AB=6$ cm.

c) Fie M mijlocul laturii $AB\Rightarrow MC\perp AB;\ MC\perp BB'\Rightarrow MC\perp(ABB')$

$MC\subset(MCB')\Rightarrow(MCB')\perp(ABB')$.

d) $V_{MBCB'}=9\sqrt{3}$ cm^3. $V_{MBCB'}=A_{MCB'}\cdot d\left(B;(MCB')\right)\cdot\frac{1}{3}\Rightarrow d(B,(MCB'))=\frac{6\sqrt{5}}{5}$ cm.