SUBIECTUL II

Folosind met. tang de gr. I a lui Newton calculați: plecând de la val.

$$\sqrt[3]{a} \quad , \quad a = 3,2$$

inițială $x_1 = 1$, efectuând primii 3 pași: (x_2, x_3, x_4)

$$f(x) = x^3 - a \iff x^3 = a \implies x = \sqrt[3]{a} \implies x = \sqrt[3]{3,2}$$

$$f'(x) = 3x^2 \qquad x = 1,473$$

$$\frac{x_1 = 1}{x_2 = x_1 - \frac{f(x_1)}{f'(x_1)}} = 1 - \frac{1^3 - 3,2}{3 \cdot 1^2} = 1 - \frac{-2,2}{3} = \frac{3 + 2,2}{3} \implies$$

$$= \frac{5,2}{3} \implies x_2 = 1,73$$

$$x_3 = x_2 - \frac{f(x_2)}{f'(x_2)} = 1,73 - \frac{1,73^3 - 3,2}{3 \cdot 1,73^2} \implies x_3 = 1,509$$

$$x_4 = x_3 - \frac{f(x_3)}{f'(x_3)} = 1,509 - \frac{1,509^3 - 3,2}{3 \cdot 1,509^2} \implies x_4 = 1,474$$

$$x_4 = 1,474 \approx \sqrt[3]{3,2}$$