MI IZ NUMATA 24/04/14

-RJEŠENJA-

1. $\lim\limits_{x\to+\infty} \dfrac{\sqrt{x+1}-\sqrt{x}}{\frac{1}{\sqrt{x}}} = \ldots = \dfrac{1}{2}$

2. $R(x) = a\,ch\left(\frac{x}{a}\right)$

$$f(x) = ch\left(\frac{x}{a}\right) = f(0) + \frac{f'(0)}{1!}x + \frac{f''(0)}{2!}x^2 + \ldots$$

$$= 1 + 0\cdot x + \frac{1}{2}\cdot\frac{1}{a^2}x^2 + \ldots$$

$$R(x) \approx a\left(1 + \frac{1}{2a^2}x^2\right) = a + \frac{1}{2a}x^2 \quad \text{za } x \text{ blizu nule}$$

3. (a) $f''(x) \approx \dfrac{f(x+h) - 2f(x) + f(x-h)}{h^2}$

(b) VIDI PREDAVANJA

(c) $f(x) = \cos x$, $h = 0.1$

$$f''(0.8) \approx \frac{f(0.9) - 2f(0.8) + f(0.7)}{0.01}$$

4. $L = \begin{bmatrix} 1 & 0 & 0 \\ -1 & 1 & 0 \\ 4 & 5 & 1 \end{bmatrix}$, $U = \begin{bmatrix} 4 & 6 & 7 \\ 0 & -5 & 4 \\ 0 & 0 & 2 \end{bmatrix}$

5. $G = \begin{bmatrix} 5 & 0 & 0 \\ 3 & 3 & 0 \\ -1 & 1 & 3 \end{bmatrix}$ $\quad x = \begin{bmatrix} 1 \\ 0 \\ -1 \end{bmatrix}$

6. 2. T
3. C
4. B
5. T
6. N
7. A
9. N
10. N
11. N
12. N