MITJA KOCJANČIČ
63200482

7.

SPLOŠNI ČLEN $a_n =$

a.) $a_{n+1} = \frac{a_1^2}{a_0}$

$a_1 = 1$

③ $A(3,3,1)$ $B(1,5,3)$ $C(3,0,1)$ $\vec{v} = \begin{bmatrix} 4 \\ 1 \\ 0 \end{bmatrix}$ $\vec{AB} = \vec{r_B} - \vec{r_A}$

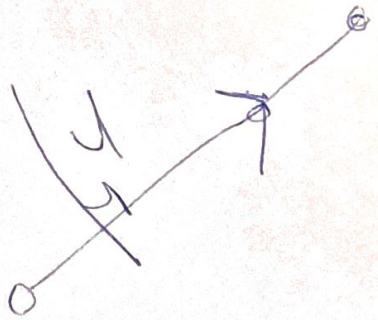
$\vec{AB} = \begin{bmatrix} -2 \\ 0 \\ 2 \end{bmatrix}$

$\vec{AC} = \begin{bmatrix} 0 \\ -3 \\ 0 \end{bmatrix}$

a) $\vec{AB} \times \vec{AC}$

$\begin{bmatrix} -2 \\ 0 \\ 2 \end{bmatrix} \times \begin{bmatrix} 0 \\ -3 \\ 0 \end{bmatrix} = \begin{bmatrix} 6+0+0+0 \\ 0+0+6+0 \\ 0+0+0+0 \end{bmatrix}$

$= \begin{bmatrix} 6 \\ 6 \\ 0 \end{bmatrix}$



$\begin{bmatrix} 6 \\ 6 \\ 0 \end{bmatrix} = 2+1+0$
$5+2+6$
$-4-1-0$

$\begin{bmatrix} 4 \\ 1 \\ 0 \end{bmatrix}$

$= \begin{bmatrix} 9 \\ 13 \\ -5 \end{bmatrix}$

MITA KOCJANČIČ
63200922

2.

$f(x) = x^3 - 2x^2 + 2$

$f'(x) = 3x^2 - 4x$

$3x^2 - 4x = 0$

$D = b^2 - 4ac$

$x_{1,2} = \frac{\pm\sqrt{D}}{2a}$

$D = 16 - 4 \cdot 3 \cdot 0 = 0$

$x_{1,2} = \frac{\pm\sqrt{16}}{2 \cdot 3} \quad \frac{\pm 4}{6}$

$x_1 = \frac{4}{6}$

$x_2 = -\frac{4}{6}$

c.)

$\int_{-1}^{1} f(x)\,dx$

$\int_{-1}^{1} (x^3 - 2x^2 + 2)\,dx$

$u = x^3 - 2x^2 + 2$

$du = 3x^2 - 4x$

$\int_{-1}^{1} (du)\,dx$

$\int_{-1}^{1} (3x^2 - 4x)\,dx$

$\int_{-1}^{1} (x^3 - x^2)\,dx \quad 4 \cdot (-1^3 + 1^2)\Big|_{-1}^{1}$

$= x_1 = -4 + 4 = 0$

$x_2 = 4 - 4 = 0$