

4) a) 3-polinom  $f(z) = \text{put } \text{mng } 3 \text{ } f(z)$

$$\frac{1}{z} + \frac{1}{z-3} + \frac{1}{z-1}$$

$f_1 \quad f_2 \quad f_3$

$(\sum 10) \times \frac{5}{2} = 25$   
A. Kosh

Suma rowinigi Laurenta tykh  $f_j$  jet rukomyu rowinigiem:

$$f_1 = \frac{1}{z}$$

$$f_2 = \frac{1}{z-3} = \sum_{n=0}^{\infty} \left(\frac{1}{3}\right)^{n+1} z^{-n} \quad \left. \begin{array}{l} \text{kolomorf. } \text{v } \text{donyu} \\ \text{paice} \end{array} \right\}$$

$$f_3 = \frac{1}{z(z-\frac{1}{2})} = \frac{1}{z} - \frac{1}{1-\frac{1}{2}z} = \frac{1}{z} - \sum_{n=0}^{\infty} \left(\frac{1}{2}\right)^{n+1} z^{-n} = \sum_{n=0}^{\infty} \frac{1}{2^{n+1}}$$

↓

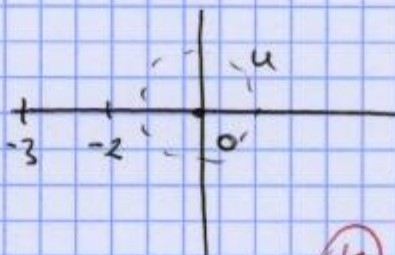
Sukhane rown.

$$\sum_{n=1}^{\infty} \frac{1}{2^{n+1}} + \frac{2}{z} + \sum_{n=0}^{\infty} -\frac{1}{2^{n+1}} z^n$$

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• Wyt. maldic rowinigiic Laurenta v dost. slawin otoa. uchtatym 3 wpih  $f(z) = p(z)$  (aabl wal), zatan wyt rowinigi woliT zera  $f(z) = p(z)$

$$\frac{1}{u+3} + \frac{1}{u} + \frac{1}{u+2}$$



kolomorf. v

otaa. uchtatym  $u \Rightarrow \text{res}_3 f = 1$

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