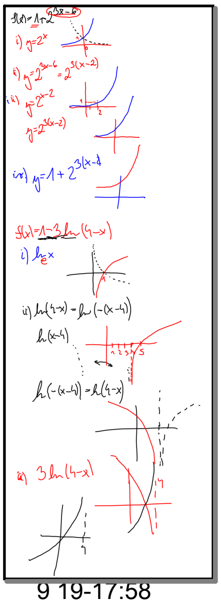
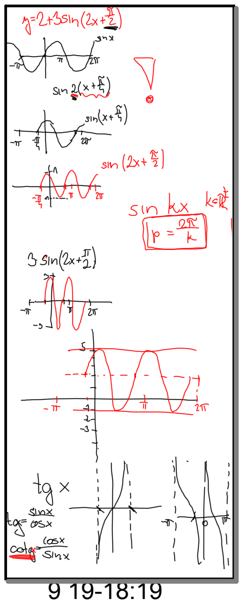
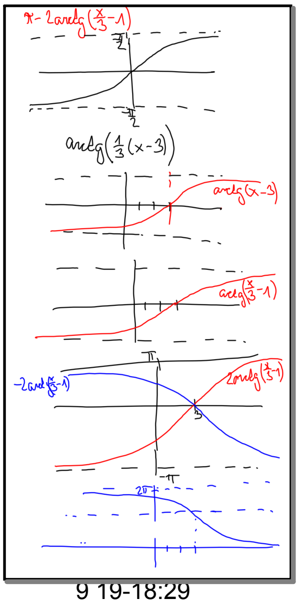


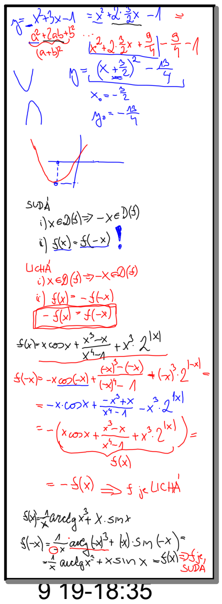
9 19-17:58



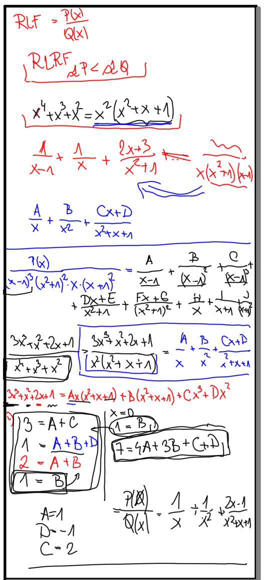
9 19-18:19



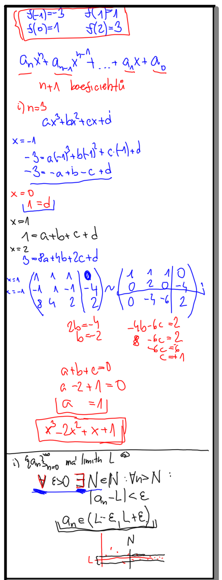
9 19-18:29



9 19-18:35

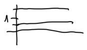


9 19-18:48



9 19-19:06

$(-1)^n$



Pro $\varepsilon = \frac{1}{2}$ $\left(1-\frac{1}{2}, 1+\frac{1}{2}\right)$

$\left\{\frac{3+2n}{5-3n}\right\}_{n=1}^{\infty}$ konvergje

$\lim_{n\to\infty} \frac{3+2n}{5-3n} \cdot \frac{\frac{1}{n}}{\frac{1}{n}} = \lim_{n\to\infty} \frac{\frac{3}{n}+2}{\frac{5}{n}-3} = -\frac{2}{3}$

$\forall \varepsilon$ $N = ?$

$\left|\frac{3+2n}{5-3n} + \frac{2}{3}\right| < \varepsilon$

$\left|\frac{9+6n+10-6n}{15-9n}\right| < \varepsilon$

$\left|\frac{19}{15-9n}\right| < \varepsilon$

$\frac{-19}{15-9n} < \varepsilon$

$\frac{19}{9n-15} < \varepsilon$ $\quad n \geq 2$

$19 < \varepsilon(9n-15)$

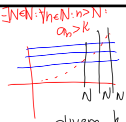
$19 < 9\varepsilon n - 15\varepsilon$

$\frac{19+15\varepsilon}{9\varepsilon} < n$

$\boxed{N = \left\lceil \frac{19+15\varepsilon}{9\varepsilon} \right\rceil}$

9 19-19:16

$\forall k>0\ \exists N \in \mathbb{N} : \forall n \in \mathbb{N} : n > N :$
$a_n > k$



diverg k $+\infty$

$\forall k<0\ \exists N \in \mathbb{N} : \forall n > N :$
$a_n < k$
divergje k $-\infty$

$a_n = 2 + \frac{3^{2n-2}}{5^{2n+3}}$

$\forall k>0$ $\exists N$

$2 + \frac{3^{2n-2}}{5^{2n}+3} > k$

$\frac{3^{2n-2}}{5^{2n+3}} > k-2$

$\frac{(3^2)^n}{3 \cdot 3 \cdot (5^2)^n \cdot 5 \cdot 5 \cdot 5} > k-2$

$\frac{9^n}{5^n \cdot 225} > k-2$

$\frac{9^n}{5^n} > k-2\,(225 \cdot 5)$

$\left(\frac{9}{5}\right)^n > \frac{k-2}{\vdots}$ $\quad / \log_{\frac{9}{5}}$

$\log_{\frac{9}{5}} \left(\frac{9}{5}\right)^n > \log_{\frac{9}{5}} \frac{k-2}{(225 \cdot 5)}$

$n > \log_{\frac{9}{5}} \frac{k-2}{(225 \cdot 5)}$ $\quad N = \left\lceil \log_{\frac{9}{5}} (k-2) \cdot 225 \cdot 5 \right\rceil$

9 19-19:24