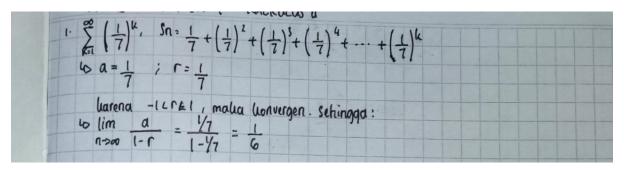
#### **TUGAS KELOMPOK MINGGU 4**

## **KALKULUS II**

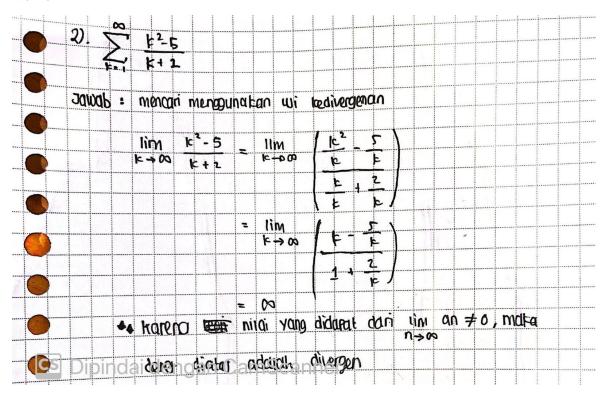
## KEL 3

•	Rafi Akbar Wibawa	(G1401211095)
•	Aida Darajati	(G1401211016)
•	Muhamad Fawaz Zidan	(G1401211051)
•	Ravi Mahesa Pramudya	(G1401211052)
•	Dhiya Khalishah Tsany Suwarso	(G1401211038)
•	Radhitya Harma	(G1401211021)
•	Muhamad Farras Surya Dio Putra	(G1401211018)
•	Azizah Amalia Azra	(G1401211046)
•	Eka Novita Sri Handayani	(G1401201030)

#### Nomor 1



## Nomor 2



## Nomor 3

$$3 \quad \underset{\text{FeI}}{\overset{2}{3}} = \frac{2}{3} \underset{\text{FeI}}{\overset{2}{5}} = \frac{1}{1}$$

$$\frac{2}{3} \left( 1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots \right)$$
Deret harmonik

Karena nilai dani deret harmonit divergen, mata

## Nomor 4

4. 
$$\sum_{k=2}^{\infty} (k - k - 1)$$

$$= -1 + \frac{1}{n}$$

# Nomor 5

5. 
$$\sum_{k=0}^{\infty} \frac{1}{kt^3}$$
 $\sum_{k=0}^{\infty} \frac{1}{kt^3}$ 
 $\sum_{k=0}^{\infty} \frac$ 

6). Ke konvergenan dengon uji integral.

$$\sum_{k=1}^{7} \frac{3}{2k-3} dk = \lim_{a \to \infty} \int_{1}^{\infty} \frac{3}{2k-3}.$$

$$= \lim_{a \to \infty} 3 \int_{1}^{a} \frac{1}{2k-3} dk = \lim_{a \to \infty} \int_{1}^{\infty} \frac{1}{2k-3}.$$

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$$= \lim_{a \to \infty} 3$$

Date
$\frac{7}{5} \leq \frac{k}{k \cdot 0} \frac{1}{k^2 + 3}$
K = 0 K2+3
Bentik & K sama denga & x
Bentuk $\lesssim k$ soma dengan $\lesssim x$ $k = 0$ $k^2 + 3$ $\times = 0$ $K^2 + 3$
$Misal U = X^2 + 3$
$V = X^2 + 3$
$\frac{du}{dx} = 2x$
dx
dx = du
2X
$\frac{x}{x} = \lim_{x \to \infty} \frac{x}{x} dx$
$\frac{x}{x=0} \frac{x}{x^2+3} = \lim_{b \to \infty} \frac{x}{b} \frac{x}{x^2+3} dx$
$= \lim_{b \to \infty} \frac{b^2 + 3}{x} \frac{x}{u} \cdot \frac{du}{2x}$
b→∞ 2 U 2*
= lim 1 1 1.
$= \lim_{b \to \infty} \frac{1}{2} \int_{3}^{b^{2}+3} \frac{1}{u} du$
$h$ $\frac{3}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
$= \lim_{b \to \infty} \frac{1}{2} \left[ \ln u \right]_{3}^{b^{2}+3}$
p→∞ 2 l _ 1 3
$= \lim_{b \to \infty} \frac{1}{2} \left( \ln \left( b^2 + 3 \right) - \ln \left( 3 \right) \right)$
= 00 Divergen

	No
	Date
(8)	∞ · · · · · · · · · · · · · · · · · · ·
	$\sum_{k=1}^{3} \frac{3}{2k^{2}+1} + f(x) = \frac{3}{2x^{2}+1}$
<u></u>	$\int_{-2x^2+1}^{\infty} \frac{3}{1+\infty} \int_{-2x^2+1}^{\infty} \frac{3}{4x} dx$
	[ ZA T]
	$= \lim_{t \to \infty} \frac{3}{2} \int_{1}^{t} \frac{1}{x^2 + \frac{1}{2}} dx$
	$= \lim_{t \to \infty} \left( \frac{3}{2} \times \frac{1}{\sqrt{1}} \times \arctan\left( \frac{x}{\sqrt{1}} \right) \right)^{t}$
	, , , , , , , , , , , , , , , , , , , ,
	$= \frac{\lim_{z \to \infty} \left( 3\sqrt{2} \operatorname{arctan}(\overline{z} \times) \right)^{\frac{1}{2}}}{2}$
	$= \lim_{t \to \infty} \left( \frac{3\sqrt{2} \arctan(\sqrt{2}t)}{2} \right) \frac{3\sqrt{2} \arctan(\sqrt{2}t)}{2}$
	2 2
	$3\sqrt{2} = \frac{\pi}{2} - 3\sqrt{2} \arctan(\sqrt{2})$
	2
	3/2 TI - GVZ Arcton (VZ)
	4
	Ruas tanan diatas adalah tonvergen.
	Jika inkaral tak wajar $\int_{1}^{\infty} \frac{3}{2k^2+1}$ konvergen, maka $\sum_{k=1}^{\infty} \frac{3}{2k^2+1}$ konvergen