**TUGAS MATEMATIKA**

**I GEDE SURYA AMERTA**

**XII RPL 1**

**10**

**SMKN 1 DENPASAR**

**TAHUN AJARAN**

**2019/2020**

No.

Date :

Soal / Tugas

1. $\lim_{x \to 0} \frac{2x^2 + 5x}{x + 5}$

$= \lim_{x \to 0} \frac{2(0)^2 + 5(0)}{0 + 5}$

$= \lim_{x \to 0} \frac{0 + 0}{5} = \frac{0}{5}$ // → substitusi langsung

2. $\lim_{x \to 3} \frac{x^2 - 2x + 15}{x^2 - x - 6}$

$= \lim_{x \to 3} \frac{(x-3) \cdot (x-5)}{(x-3)(x+2)}$

$= \lim_{x \to 3} \frac{x-5}{x+2} = \frac{3-5}{3+2} = \frac{-2}{5}$ // → Pemfaktoran

No.

Date :

3. $\lim_{x \to 4} \frac{x^2 - 4}{\sqrt[3]{x+23} - 5}$

$= \lim_{x \to 4} \frac{x^2 - 4}{\sqrt[3]{x+23} - 5} \times \frac{\sqrt[3]{x+23} + 5}{\sqrt[3]{x+23} + 5}$

$= \lim_{x \to 4} \frac{x^2 - 4 \cdot \sqrt[3]{x+23} + 5}{(x+23) - 25} = \frac{(x-2)(x+2)(\sqrt[3]{x+23}+5)}{(x-2)}$

$= \lim_{x \to 4} (x+2) \cdot (\sqrt[3]{x+23} + 5)$

$= \lim_{x \to 4} (4+2) \cdot (\sqrt[3]{4+23} + 5)$

$= 6 \cdot (3+5)$ → Perkalian sekawan

$= 48$ //

4. $\lim_{x \to \infty} \frac{4x^3 + 2x - 5}{2x^3 - 4x + 3}$

$= \lim_{x \to \infty} \frac{\frac{4x^3}{x^3} + \frac{2x}{x^3} - \frac{5}{x^3}}{\frac{2x^2}{x^3} - \frac{4x}{x^3} + \frac{3}{x^3}} = \frac{4 + \frac{2}{x^2} - \frac{5}{x^3}}{\frac{2}{x^2} - \frac{4}{x^2} + \frac{3}{x^3}}$

No.

Date :

$= 4 + \frac{2}{\sim^2} - \frac{5}{\sim^3}$ $= \frac{4+0+0}{0-0+0}$ $= \frac{4}{0} = \sim$

$\frac{2}{\sim^2} - \frac{4}{\sim^2} + \frac{3}{\sim^3}$

Limit aljabar tak hingga

5. $\lim_{x \to 2} \frac{a \quad b \quad c}{\sqrt{x^6 + 8x - 5}} - \frac{p \quad q \quad r}{\sqrt{x^6 + 2x - 6}}$

Cara cepat

$a = p = \frac{b-q}{2\sqrt{a}}$

$= \frac{3x - 2x}{2\sqrt{1}}$ $= \frac{1x}{2}$ $= \frac{1}{2}x$

Ini limit aljabar tak hingga akar