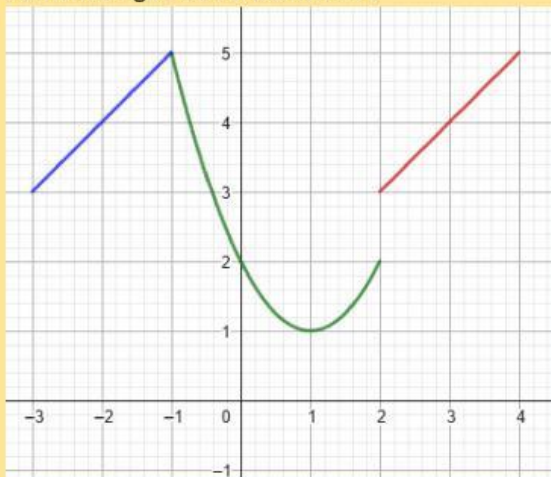


MINI KUIS TIPE A

MATEMATIKA TINGKAT LANJUT LIMIT

1. Perhatikan gambar di bawah ini !



- a. $\lim_{x \rightarrow -2} f(x) =$ Karena $\lim_{x \rightarrow -2^-} f(x) =$ dan $\lim_{x \rightarrow -2^+} f(x) =$
 b. $\lim_{x \rightarrow -1} f(x) =$ Karena $\lim_{x \rightarrow -1^-} f(x) =$ dan $\lim_{x \rightarrow -1^+} f(x) =$
 c. $\lim_{x \rightarrow 0} f(x) =$ Karena $\lim_{x \rightarrow 0^-} f(x) =$ dan $\lim_{x \rightarrow 0^+} f(x) =$
 d. $\lim_{x \rightarrow 1} f(x) =$ Karena $\lim_{x \rightarrow 1^-} f(x) =$ dan $\lim_{x \rightarrow 1^+} f(x) =$
 e. $\lim_{x \rightarrow 2} f(x) =$ Karena $\lim_{x \rightarrow 2^-} f(x) =$ dan $\lim_{x \rightarrow 2^+} f(x) =$

2. Tentukan nilai limit dari $\lim_{x \rightarrow 1} \frac{3x-3}{x^2-4x+3}$!

Penyelesaian :

$$\begin{aligned} \lim_{x \rightarrow 1} \frac{3x-3}{x^2-4x+3} &= \frac{3(\quad) - 3}{(\quad)^2 - 4(\quad) + 3} \\ &= \frac{-3}{-1 + 3} \\ &= \frac{-3}{2} \end{aligned}$$

4. Tentukan nilai limit dari $\lim_{x \rightarrow 3} \frac{x^2-x-6}{2x^2-x-15}$!

Penyelesaian :

$$\begin{aligned} \lim_{x \rightarrow 3} \frac{x^2-x-6}{2x^2-x-15} &= \lim_{x \rightarrow 3} \frac{(x-\quad)(x+\quad)}{(x-\quad)(2x+\quad)} \\ &= \lim_{x \rightarrow 3} \frac{(x+\quad)}{(2x+\quad)} \\ &= \frac{6}{9} \\ &= \frac{2}{3} \end{aligned}$$

3. Tentukan nilai limit dari $\lim_{x \rightarrow 2} \frac{x^2-4}{x^2-3x+2}$

Penyelesaian :

$$\begin{aligned} \lim_{x \rightarrow 2} \frac{x^2-4}{x^2-3x+2} &= \lim_{x \rightarrow 2} \frac{(x-\quad)(x+\quad)}{(x-\quad)(x-\quad)} \\ &= \lim_{x \rightarrow 2} \frac{(x+\quad)}{(x-\quad)} \\ &= \frac{(2+\quad)}{(2-\quad)} \\ &= \frac{4}{0} \\ &= \text{undefined} \end{aligned}$$

5. Tentukan nilai limit dari $\lim_{x \rightarrow 2} \frac{x-2}{\sqrt{x+7}-3}$!

Penyelesaian :

$$\begin{aligned} \lim_{x \rightarrow 2} \frac{x-2}{\sqrt{x+7}-3} &= \lim_{x \rightarrow 2} \frac{x-2}{\sqrt{x+7}-3} \times \frac{\sqrt{x+7}+3}{\sqrt{x+7}+3} \\ &= \lim_{x \rightarrow 2} \frac{(x-2)(\sqrt{x+7}+3)}{(x+7)-9} \\ &= \lim_{x \rightarrow 2} \frac{(x-2)(\sqrt{x+7}+3)}{(x-2)} \\ &= \lim_{x \rightarrow 2} (\sqrt{x+7}+3) \\ &= \sqrt{2+7}+3 \\ &= \sqrt{9}+3 \\ &= 3+3 \\ &= 6 \end{aligned}$$