No.

Date :

UTS

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Program Studi = Ilmu Komputer B / Kalkulus

telah mengerjakan soal ujian ini secara mandiri tanpa bantuan/mencontek Pekerjaan orang lain.

2 $y = u^2 - 6u + 5$

$y = u^2 - 6u + 5$

$y = 0$

$u^2 - 6u + 5 = 0$

$(u-1)(u+6) = 0$

$u = 1 \vee u = -6$

$(1,0) \quad (-6,0)$

Potong sumbu $y \rightarrow u = 0$

$y = 0^2 - 6(0) + 5$

$= 5$

Sumbu simetri $u = -b/2a = -(-6)/2(1)$

$= 6/2$

$= 3$

masukan simetri ke fungsi

$y = u^2 - 6u + 5$

$= 3^2 - 6.3 + 5$

$= 9 - 9 + 5$

$= 5$

titik puncak (3.5)

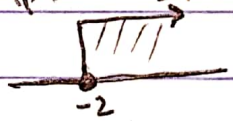
1. $u - 7 < 2u - 5$

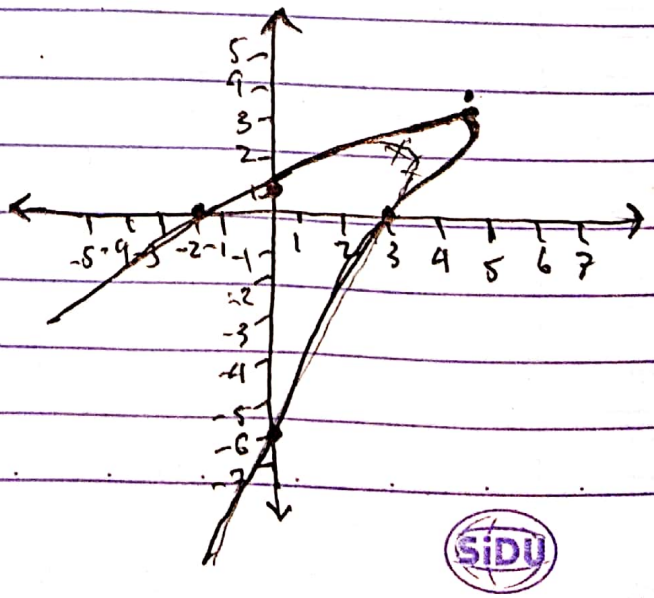
$u - 2u < -5 + 7$

$-u < 2$

$u > -2$

HP = $(-2, \infty)$





5. $\lim_{u \to 2} P(u) = u^2 - 6u + 5$

$= 2^3 - 6.2 + 5$

$= 4 - 12 + 5$

$= -8 + 5$

$= -3$

6. $\lim_{u \to 3} \frac{P(u)}{h(u)} = \frac{u^3 + 6u + 5}{u - 1} = \frac{(u-1)(u+6)}{u-1}$

$= u + 6$

$\lim_{u \to 3} = u + 6$

$= 3 + 6$

$= 9$

8. $\lim_{u \to 2} \frac{u^2 - u - 2}{u^2 - 5u + 6} = \frac{(u-2)(u+1)}{(u-3)(u-2)}$

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

9. $\lim_{u \to \infty} \frac{-5x^3 - 2x^2 + 3x - 5}{6x^3 + 14x^2 - 7x - 10}$

$\frac{-5x^3/x^3 + 14x^2/x^3 + 7x/x^3 - 5}{6x^3/x^3 + 14x^2/x^3 + 7x/x^3 - 10}$

$\lim_{u \to \infty} \frac{-5 - 5}{6 - 10} = \frac{-10}{-4} = 2{,}5$

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7. $\lim_{a \to 2} \dfrac{\sqrt{2x+5}-3}{x^2-4} \times \dfrac{\sqrt{-2x+5}+3}{\sqrt{2x+5}+3}$

$$\frac{2x+5-9}{(x-2)(x+2)(\sqrt{2x+5}+3)}$$

$$\frac{2x-4}{(x-2)(x+2)(\sqrt{2x+5}+3}$$

$\lim_{x \to 2}$

$$= \frac{2(x-2)}{(x-2)(x+2)(\sqrt{2x+5}+3}$$

$$= \frac{2}{(2+2)(\sqrt{2(2)+5}+3}$$

$$= \frac{2}{4(\sqrt{9}+3)} = \frac{2}{4(3+3)}$$

$$= \frac{3}{24} = \frac{1}{12}$$