No.

Date

"Tugas kalkulus"

- S1 1D - Semester 1 -

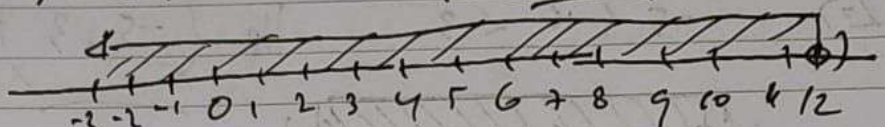
Paulus Abraham Monny
- 24010211G .

1/ (a) $4x - 7 < 3x + 5$

$\Leftrightarrow 4x - 3x < 5 + 7$

$\Leftrightarrow x < 12$

Hp. $(-\infty, 12)$



(b) $-3 < 4x - 9 < 11$

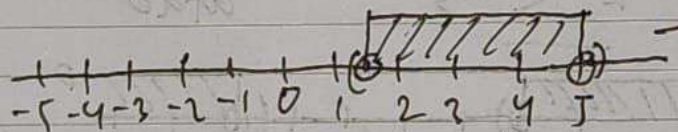
$\Leftrightarrow -3 + 9 < 4x < 11 + 9$

$\Leftrightarrow 6 < 4x < 20$

$\Leftrightarrow 6/4 < x < 20/4$

$\Leftrightarrow 1{,}5 < x < 5$

Hp. $(1{,}5 , 5) // (\frac{3}{2}, 5)$



(c) $2 + 3x < 5x + 1 < 16$

$\Leftrightarrow 2 + 3x < 5x + 1$

$\Leftrightarrow 3x - 5x < 1 - 2$

$\Leftrightarrow -2x < -1$

$\Leftrightarrow x > -1/-2$

$\Leftrightarrow x > 1/2$

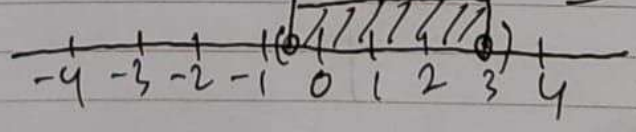
$\Leftrightarrow 5x + 1 < 16$

$\Leftrightarrow 5x < 16 - 1$

$\Leftrightarrow 5x < 15$

$\Leftrightarrow x < 3$

Hp. $(1/2 < x < 3)$

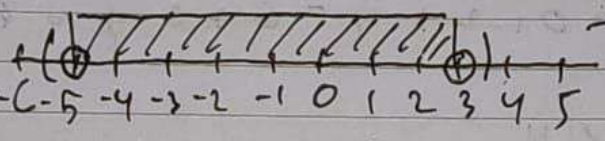


2/ (a) $|x+1| < 4$

$\Leftrightarrow -4 < x+1 < 4$

$\Leftrightarrow -4-1 < x < 4-1$

$\Leftrightarrow -5 < x < 3$ Hp. $(-5, 3)$

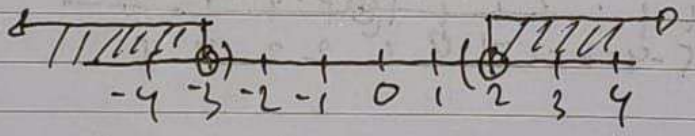


(b) $|4x+2| > 10$

$\Leftrightarrow 4x+2 < -10$ atau $4x+2 > 10$

$\Leftrightarrow 4x < -12$ $4x > 8$

$\Leftrightarrow x < -3$ atau $x > 2$



Hp. $(-\infty, -3)$ atau $(2, \infty)$

3/ (a) $f(x) = x^3 + 3x$

$\Leftrightarrow f(\sqrt{2}) = (\sqrt{2})^3 + 3(\sqrt{2})$

$= 2^{3/2} + 3\sqrt{2}$

(b) $f(x) = x^3 + 3x$

$\Leftrightarrow f(1+h) = (1+h)^3 + 3(1+h)$

$= h^3 + 3h^2 + 3h + 1 + 3 + 3h$

$= h^3 + 3h^2 + 6h + 4$

No.

Date

4, (a) $f(z) = \sqrt{2z+3}$

$z = 0 \Leftrightarrow \sqrt{2(0)+3} = \sqrt{3}$
$z = 1 \Leftrightarrow \sqrt{2(1)+3} = \sqrt{5}$
$z = -1 \Leftrightarrow \sqrt{2(-1)+3} = \sqrt{1}$
$z = -2 \Leftrightarrow \sqrt{2(-2)+3} = \sqrt{-1}$ ×

Daerah asal alami : $\{z; z \geq -1\}$

(b) $g(v) = \frac{1}{(4v-1)}$

$\Leftrightarrow 4v - 1 > 0$
$4v > 1$
$v > 1/4$

$\Leftrightarrow v \neq 1/4$
$\Leftrightarrow$ Daerah asal alami : $\{v; v \neq 1/4\}$

5, (a) $f(x) = 3x$

$\Leftrightarrow f(-x) = 3(-x)$
$= -3x$
$= -(3x) \Leftrightarrow$ fungsi ganjil.

$f(-x) = -f(x) \Leftrightarrow$ fungsi ganjil.

(b) $f(t) = -|t+3| = -(t+3)$

$f(-t) \Leftrightarrow -(-t+3)$
$\Leftrightarrow t-3$
$\Leftrightarrow -(-t+3)$
$f(-x) \neq f(x) \neq -f(x)$
→ ini bukan fungsi genap dan bukan fungsi ganjil