1. Tentukan himpunan penyelesaian pertidaksamaan dari

$$\frac{x+2}{x-1} \leq \frac{x}{x+1}$$

$$(x+2)(x+1) \leq x(x-1)$$
$$x^2 + 3x + 2 \leq x^2 - x$$
$$3x + 2 \leq -x$$
$$4x \leq -2$$
$$x \leq -\frac{1}{2}$$

- $x - 1 \neq 0 \Rightarrow x \neq 1$
- $x + 1 \neq 0 \Rightarrow x \neq -1$

$$x \leq -\frac{1}{2}, \; x \neq -1$$

$$(-\infty, -1) \cup \left(-1, -\frac{1}{2}\right]$$

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2.

$y = m\theta + c$

- Hitung gradien m:

$m = \frac{y_2 - y_1}{\theta_2 - \theta_1} = \frac{4-1}{2-3} = \frac{3}{-1} = -3$

$1 = -3(3) + c \Rightarrow 1 = -9 + c \Rightarrow c = 10$

$y = -3\theta + 10$

3. $(g \circ f)(\theta) = g(f(\theta)) = \sqrt{\cos\theta}$

$\cos\theta \geq 0$

$[0, \frac{\pi}{2}] \cup [\frac{3\pi}{2}, 2\pi]$

$\theta \in [0, \frac{\pi}{2}] \cup [\frac{3\pi}{2}, 2\pi)$

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