

b) $\cos x = \cos 4x$

$\Leftrightarrow x = 4x + M2\pi$ atau $x = -4x + M2\pi$

$\Leftrightarrow -3x = M2\pi \quad | :(-3)$ atau $5x = M2\pi \quad | :5$

$\Leftrightarrow x = (-1)M \frac{2\pi}{3}$ atau $x = M \frac{2\pi}{5}, M \in \mathbb{Z}$

8.5 a) $(\sin x - \cos x)^2$

$(a-b)^2 = a^2 - 2ab + b^2$

$= (\sin x)^2 - 2 \cdot \sin x \cdot \cos x + (\cos x)^2$

$= \sin^2 x - 2 \sin x \cos x + \cos^2 x = 1 - \sin 2x$

b) $\sin^3 x + \sin x \cos^2 x = \sin x (\sin^2 x + \cos^2 x) = \sin x$

8.9 $f(x) = \frac{5}{4 + 3 \underbrace{\cos 2x}_{-1 \leq \cos 2x \leq 1}}$

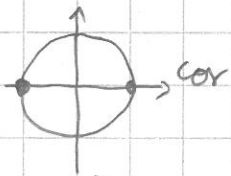
minimisasi $\neq 0$ atau $\Rightarrow x \in \mathbb{R}$

maksimum: $\frac{5}{4 + 3 \cdot (-1)} = \frac{5}{1} = 5$ ketika $\cos 2x = -1$

$\Leftrightarrow 2x = \pi + M2\pi \quad | :2 \Rightarrow x = \frac{\pi}{2} + M\pi, M \in \mathbb{Z}$

minimum: $\frac{5}{4 + 3 \cdot 1} = \frac{5}{7}$ ketika $\cos 2x = 1$

$\Leftrightarrow 2x = M2\pi \quad | :2 \Rightarrow x = M\pi, M \in \mathbb{Z}$



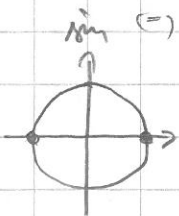
8.11 a) $2 \sin x \cos x - \sin x = 0$

$\Leftrightarrow \sin x (2 \cos x - 1) = 0$

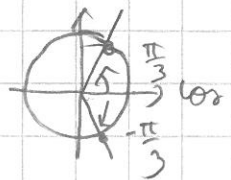
$\Leftrightarrow \sin x = 0$ atau $2 \cos x - 1 = 0$

$\Leftrightarrow \cos x = \frac{1}{2}$

$\Leftrightarrow x = \pm \frac{\pi}{3} + M2\pi, M \in \mathbb{Z}$



$x = M\pi$ atau



$\Gamma_{TA1}: 2 \sin x \cos x - \sin x = 0$

$\Leftrightarrow \sin 2x = \sin x$

$\Leftrightarrow 2x = x + M2\pi$ atau $2x = \pi - x + M2\pi$

$\Leftrightarrow x = M2\pi$ atau $3x = \pi + M2\pi \quad | :3 \Rightarrow x = \frac{\pi}{3} + M \frac{2\pi}{3}, M \in \mathbb{Z}$

b) $\cos x + \sin x = \sqrt{2} \quad | (\)^2$ mod. quadr.

$\Leftrightarrow (\cos x + \sin x)^2 = (\sqrt{2})^2$ Heom! Terdapat logaritma