



$$\frac{\sin x + \cos x}{\sin x - \cos x} \div \cos x + \frac{\sin x - \cos x}{\sin x + \cos x} \div \cos x = \frac{\tan x + 1}{\tan x - 1} + \frac{\tan x - 1}{\tan x + 1} = \mu$$

$$\frac{\mu \tan^2 x + \mu}{\tan^2 x - 1} = \mu \Rightarrow \mu \tan^2 x + \mu = \mu \tan^2 x - \mu \Rightarrow \tan^2 x = \omega$$

$$\frac{\sin^2 x - \mu \cos^2 x + 1}{\sin^2 x + \mu \cos^2 x - 1} = \mu \Rightarrow \frac{\sin^2 x - \mu \cos^2 x + \cos^2 x + \sin^2 x}{\sin^2 x + \mu \cos^2 x - \cos^2 x - \sin^2 x} = \frac{\mu \sin^2 x - \cos^2 x}{\cos^2 x} \div \cos^2 x$$

$$= \frac{\mu \tan^2 x - 1}{1} = \mu \Rightarrow \mu \tan^2 x = \omega \Rightarrow \boxed{\tan^2 x = \mu, \omega}$$

$$\text{الف) } \cos 2\mu, \omega \rightarrow \cos^2 \alpha = \frac{1 + \cos^2 \alpha}{\mu} \rightarrow \cos^2 \mu, \omega = \frac{1 + \cos^2 \omega}{\mu} = \frac{1 + \frac{\sqrt{\mu}}{\mu}}{\mu} = \frac{\mu + \sqrt{\mu}}{\mu}$$

$$\Rightarrow \cos 2\mu, \omega = \frac{\sqrt{\mu + \sqrt{\mu}}}{\mu}$$

$$\text{ب) } \sin 4\mu, \omega \rightarrow \sin^2 \alpha = \frac{1 - \cos^2 \alpha}{\mu} \Rightarrow \sin^2 4\mu, \omega = \frac{1 - \cos^2 \omega}{\mu} = \frac{1 + \frac{\sqrt{\mu}}{\mu}}{\mu}$$

$$\Rightarrow \frac{\mu + \sqrt{\mu}}{\mu} \Rightarrow \sin 4\mu, \omega = \frac{\sqrt{\mu + \sqrt{\mu}}}{\mu}$$