

4.)

$$x(t) = a \sin(\omega t)$$

$$y(t) = b \sin\left(2\omega t + \frac{\pi}{2}\right)$$

$$a = 4 \text{ cm} \quad b = 3 \text{ cm}$$

$$\omega = \text{áll}$$

$$\cos^2 \alpha + \sin^2 \alpha = 1$$

$$\sin(\alpha + \beta) = \sin \alpha \cos \beta + \cos \alpha \sin \beta$$

$$\cos 2\alpha = \cos^2 \alpha - \sin^2 \alpha$$

$$\left( \begin{array}{l} \cos(\alpha + \beta) = \cos \alpha \cos \beta - \sin \alpha \sin \beta \\ \sin 2\alpha = 2 \sin \alpha \cos \alpha \end{array} \right)$$

$$x = a \sin(\omega t) \rightarrow \sin(\omega t) = \frac{x}{a}$$

$$y = b \left[ \sin(2\omega t) \cos \frac{\pi}{2} + \cos(2\omega t) \sin \frac{\pi}{2} \right] = b \cos(2\omega t)$$

$$y = b \left[ \cos^2(\omega t) - \sin^2(\omega t) \right] = b \left[ 1 - 2 \sin^2(\omega t) \right]$$

$$y = b \left( 1 - 2 \frac{x^2}{a^2} \right) \dots$$

$$! y = f(x)$$

$$! y(x) \text{ ábra}$$