1.13*

lördag 20 januari 2024 19:04

$A = 5 \qquad T = 4 \qquad T = \frac{2\pi}{w}$

$w = \pi/2$

$f = \frac{1}{T} = \frac{1}{4}$

$u(t) = 5 \sin\left(\frac{\pi}{2} t + \alpha\right)$

$u(1{,}5) = 0 = 5 \sin\left(3\pi/4 + \alpha\right)$

$0 = \sin\left(\frac{3\pi}{4} + \alpha\right) \iff \arcsin 0 = \frac{3\pi}{4} + \alpha =$

$= 0 + 2k\pi$

$\alpha = -\frac{3\pi}{4} + 2k\pi \qquad k = 1 \iff \alpha = \frac{5\pi}{4}$

Sv. $u(t) = 5 \sin\left(\pi/2\, t + 5\pi/4\right)$