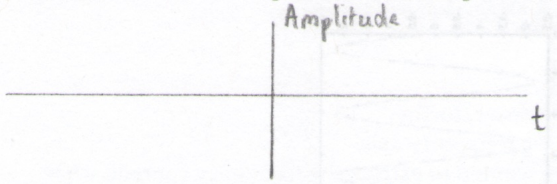
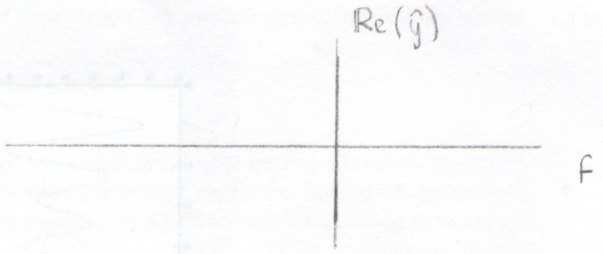
Problem 1

Function

$y(t) = \cos(t) = \_\_\exp(\_\_t) + \_\_\exp(\_\_t)$

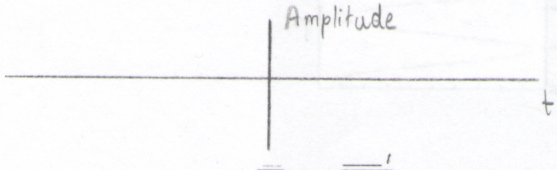


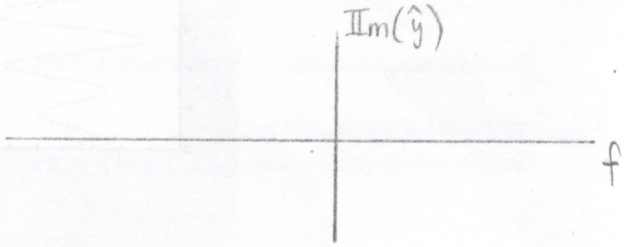


Fourier Series $y(t) = \sum_{n=\_\_}^{\_\_} \hat{y}_n e^{\frac{\_\_t}{\_\_}}$ where $\hat{y}_n =$

Function

$y(t) = 2\sin(3t) = \_\_\exp(\_\_t) + \_\_\exp(\_\_t)$



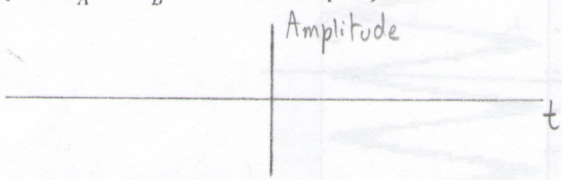


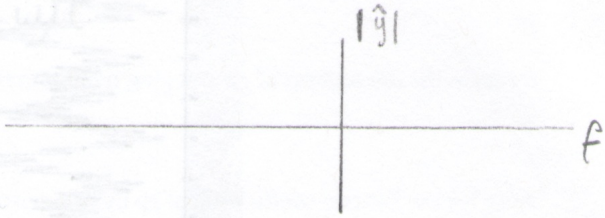
Fourier Series $y(t) = \sum_{n=\_\_}^{\_\_} \hat{y}_n e^{\frac{\_\_t}{\_\_}}$ where $\hat{y}_n =$

Function

$y(t) = A\cos(\omega_A t) + B\sin(\omega_B t) = \_\_\exp(\_\_t) + \_\_\exp(\_\_t) + \_\_\exp(\_\_t) + \_\_\exp(\_\_t)$

(Let $\omega_A = \omega_B = 1.5$ for the plot)

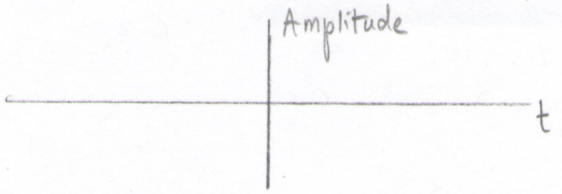


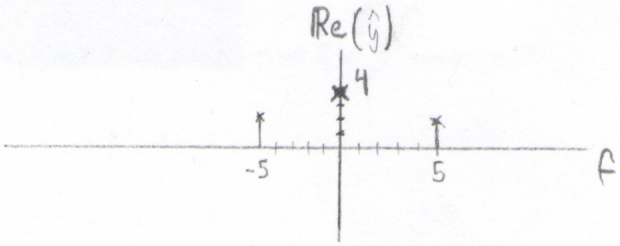


Fourier Series $y(t) = \sum_{n=\_\_}^{\_\_} \hat{y}_n e^{\frac{\_\_t}{\_\_}}$ where $\hat{y}_n =$

Function

$y(t) = \_\_ + \_\_\_\_\_ = \_\_\exp(\_\_t) + \_\_\exp(\_\_t)$

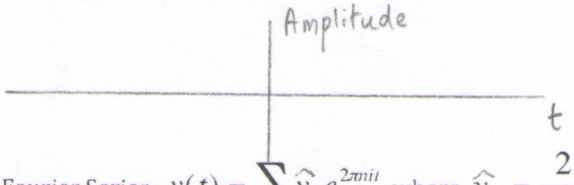


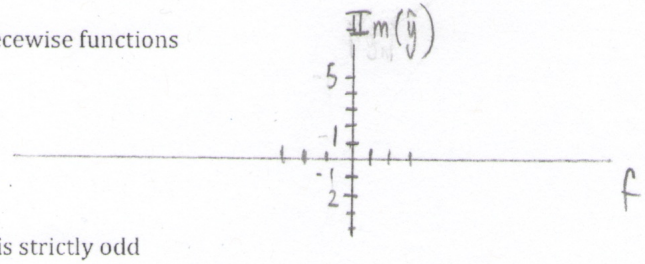


Fourier Series $y(t) = \sum_{n=\_\_}^{\_\_} \hat{y}_n e^{\frac{\_\_t}{\_\_}}$ where $\hat{y}_n =$

Function

$y(t) =$ _____ you may describe this function in words or piecewise functions





Fourier Series $y(t) = \sum_{odd} \hat{y}_n e^{2\pi n i t}$ where $\hat{y}_n = \frac{2}{\pi i n}$ and n is strictly odd