The Fourier Series

Problem sheet

1. Plot the spectrum (amplitude and phase) of the following signal: *x(t) = 4sin(7t)* . Use Euler's identity to find the spectrum. Explain the values on your phase vs. frequency plot.

X_k

0   ω

Magnitude vs. Frequency

$\angle X_k$

0   ω

Phase vs. Frequency
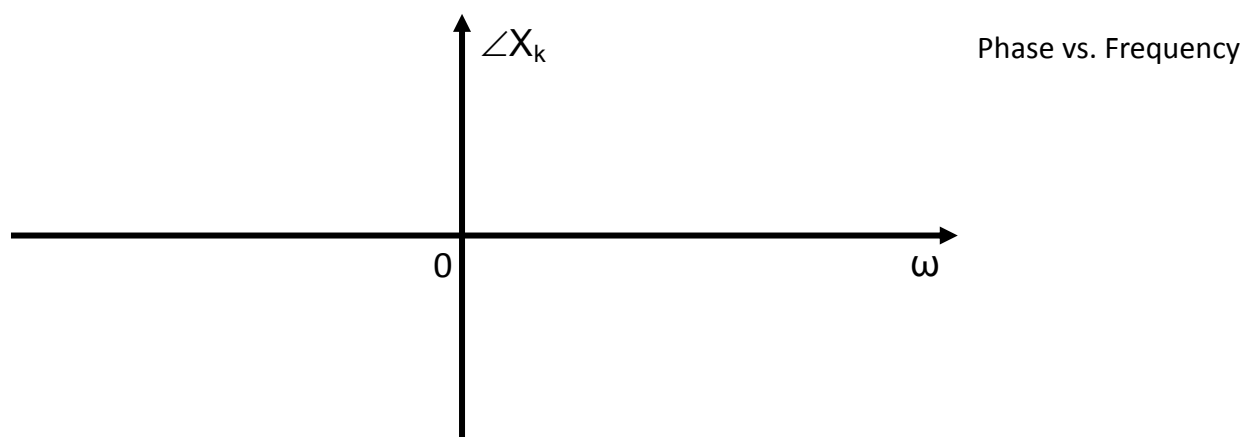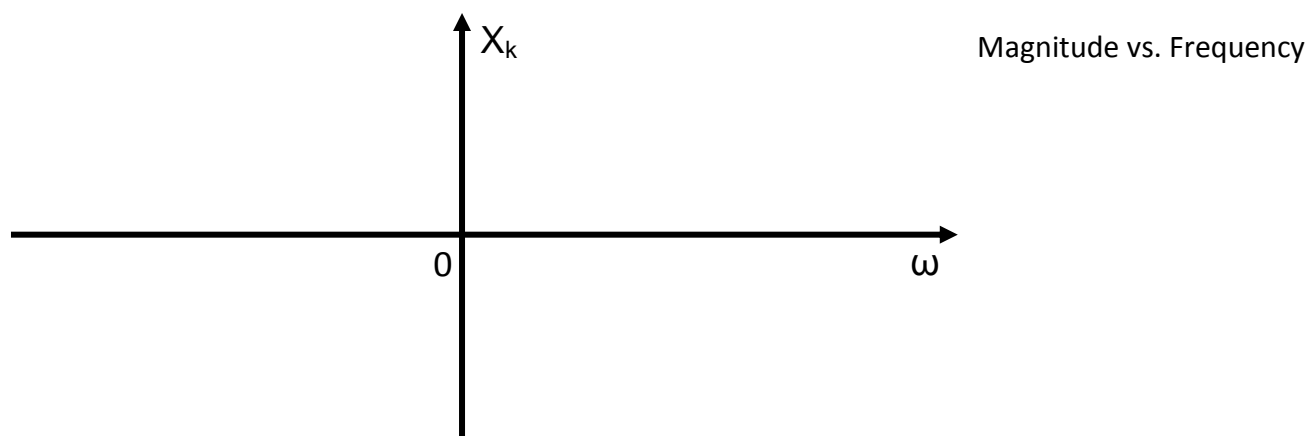
2. Find the formula of the real signal $x(t)$ whose spectrum is shown below. What is the fundamental frequency f_0 of the signal?