Applied Mathematics I - Worksheet #12

Professor Broughton

Name:_____ Box #:_____

1. low pass …lter example

1.a Find a particular solution to the low pass …lter problem example for $v_{in}(t) = \sin(50t)$: Plot the input and output on the same axes and compare.

1.b Compute the amplitude and phase shift of the output signal in comparison to the original.

2.a Same as 1.a for $v_{in}(t) = \sin(1000t)$:

2.b Same as 1.b for $v_{in}(t) = \sin(1000t)$:

3.a Use the answers in 1 and 2 to …nd a particular solution when $v_{in}(t)$ = sin(50t) + 0:25 sin(1000t): Plot the input and out put functions. What happens.

4. Find the amplitude and phase shift for the the input sin(!t):