

Math 216 Assignment 4 Supplement

READ ME: Merely finding the answer to a problem is not enough to receive full credit; you must show how you arrived at that answer.

1) Take the Laplace Transform of both sides of the following differential equations; calculate the domain of definition for any explicit functions.

a) (6 points) $3y' - 6y = t$

b) (8 points) $4y'' + 17y' - 2y = 5u(t)$ where u is the Heaviside (unit step) function.

2) Use properties of the Laplace Transform and the values of known transforms to calculate the Laplace Transforms of the following functions:

a) (2 points) $f(t) = 17 - e^{8t} + 6t^2$

b) (4 points) $g(t) = 2^t(\cos(3t) + t \sin(3t))$