

### Recitation problem Set 6A - Orthonormal basis functions

This is a set of problems on orthogonal basis sets, etc. This material is not currently covered in any of the RS sets, so this set must be "sandwiched between" two existing sets or added to one.

1. Determine values of the coefficients a, b, and c so that the signals

$$\phi_0(t) = ae^{-t}, \quad \phi_1(t) = be^{-t} + ce^{-2t}$$

form an orthonormal basis set on the time interval  $0 \leq t < \infty$ .