

## Problem 14

Recall that  $\cos bt = (e^{ibt} + e^{-ibt})/2$  and that  $\sin bt = (e^{ibt} - e^{-ibt})/2i$ . In each of Problems 11 through 14, find the Laplace transform of the given function;  $a$  and  $b$  are real constants. Assume that the necessary elementary integration formulas extend to this case.

$$f(t) = e^{at} \cos bt$$