

**Reading:** Boas 8.8 and 8.9 on Laplace transforms

- (1) Find the Laplace transform,  $\mathcal{L}[f]$  of

$$f = e^{3t}$$

Check your result with Mathematica. The command is `LaplaceTransform[f[t], t, s]`

- (2) Using your previous result and Euler's formula for sine, find the Laplace transform,  $\mathcal{L}[f]$  of

$$f(t) = 2 \sin t$$