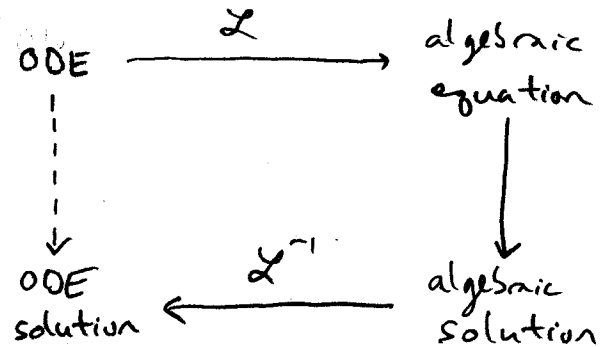


MTHSC 208: Fall 2011

Week 10 summary:

• Laplace transforms: $\mathcal{L}(f)(s) = \int_0^{\infty} f(t) e^{-st} dt := F(s)$.

* Useful for solving ODE's
when the forcing term $f(t)$
is discontinuous.



• \mathcal{L} "turns derivatives into multiplication.":

$$\mathcal{L}(y') = sY - y(0), \quad \mathcal{L}(y'') = s^2Y - sy(0) - y'(0)$$

• Inverse Laplace transforms techniques:

* Factor

* partial fractions

* complete the square