

Cypress College Math Review:

Laplace Transforms and Differential Equations

$$\mathcal{L}\left[f^{(n)}\right](s) = s^n F(s) - \left[s^{n-1}f(0) + s^{n-2}f'(0) + s^{n-3}f''(0) + \dots + f^{(n-1)}(0)\right]$$

Example: $x'' + 4x' + 5x = 25t$ $x(0) = -5$, $x'(0) = 7$