6.3: Laplace Transforms of Step Functions
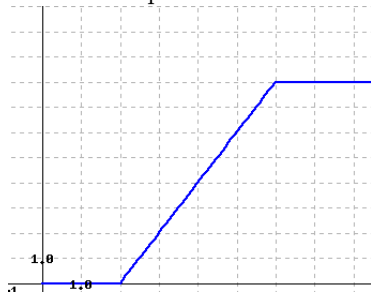
Examples: Sketch the graph of $u_\pi(t) - u_{2\pi}(t)$.

Write the following piecewise function using Heaviside functions:

$$f(t) = \begin{cases} 9 & \text{if } x < 3 \\ t^2 & \text{if } 3 < x < 4 \\ 0 & \text{if } x > 4 \end{cases}$$

Find the Laplace Transform of $f(t) = \begin{cases} 9 & \text{if } x < 3 \\ t^2 & \text{if } 3 < x < 4 \\ 0 & \text{if } x > 4 \end{cases}$

Find the Laplace Transform of the function whose graph is shown below:

Find the inverse Laplace Transform of $F(s) = \dfrac{1 - e^{-2s}}{s^2}$.