1. Express the following function using Heaviside functions and determine its Laplace transforms.

\[ f(t) = \begin{cases} 
1, & t < 2 \\
2t, & 2 < t < 3 \\
e^{-t}, & 3 < t
\end{cases} \]

2. Find the inverse Laplace transform of the following.

\[ F(s) = \frac{4se^{-2s}}{s^2 + 2s - 3} \]

Continued on reverse.
3. Compute the Laplace transform of the periodic function $f(t)$ given by the graph below.