Problem 1: Calculate \( \frac{d}{dm} \frac{m^2 - m(\sqrt{m} - 1) - m^3 e^m}{m^3} \)

Solution of problem 1:

\[
\frac{d}{dm} \frac{m^2 - m(\sqrt{m} - 1) - m^3 e^m}{m^3} = \frac{d}{dm} \frac{m^2 - m^{3/2} + m - m^3 e^m}{m^3} = \left( \frac{1}{m} - m^{-3/2} + m^{-2} - e^m \right)'
\]

\[
= -\frac{1}{m^2} - \left( -\frac{3}{2} \right) m^{-3/2 - 1} + (-2) m^{-2 - 1} - e^m = -\frac{1}{m^2} + \frac{3}{2} m^{-5/2} - \frac{2}{m^3} - e^m.
\]

Problem 2 and its solution: The graph of function \( f \) is given below. Use it to sketch the graph of the derivative \( f' \). On the graph of \( f \) indicate the points where \( f''(x) > 0 \).