1. Find and classify the critical points of \( x^3 - 9x^2 - 48x + 52 \) using the second derivative test.

2. The value of an investment at time \( t \) is given by \( S(t) \). The rate of change, \( S'(t) \), of the value of the investment is shown in the figure below.

(a) What are the critical points of the function \( S(t) \).

(b) Identify each critical point as a local maximum, a local minimum, or neither.

(c) Explain the financial significance of each of the critical points.