5. The graph below shows an approximation to the stock price, \( P = f(t) \) in dollars, of Lehman Brothers Inc. (LEH) with \( t \) measured in months since the stock's highest point in February 2007 to the company's ultimate bankruptcy in September 2008 (\( t=19 \)).

(a) (2 points) Explain why \( f \) is invertible on the indicated domain.

(b) (3 points) Interpret, in the context of this problem, \( f^{-1}(5) \).

(c) (4 points) If \( \frac{dP}{dt} \bigg|_{t=16} = -5 \) and \( f(16) = 25 \), find an equation of the line tangent to the curve at \( t = 16 \).

(d) (3 points) Using part (c), what month would your tangent line have predicted LEH’s stock price would reach zero?