(1.) (1 pt each) True / False--Circle your choice. Circle T only if the statement is always true. [No explanation necessary.]

(a) If \( f'(x) = g'(x) \) for all \( x \), then \( f(x) = g(x) \) for all \( x \). \[ T \quad F \]

(b) If \( f''(a) = 0 \), then \( f \) has an inflection point at \( x = a \). \[ T \quad F \]

(c) If \( x = p \) is not a critical point of \( f \), then \( x = p \) is not a local maximum of \( f \). \[ T \quad F \]

(d) If \( \int_{0}^{2} f(x)dx = 6 \) then \( \int_{0}^{4} f(x)dx = 12 \). \[ T \quad F \]

(e) If \( \int_{0}^{4} f(x)dx = 6 \) and \( h(x) = 5f(x) \) then \( \int_{0}^{4} h(t)dt = 30 \). \[ T \quad F \]

(2.) (4 pts.) Is the function \( g(x) = x^3 - \frac{x}{16} \) invertible? ______________

Below, give a clear justification for your answer.

(3.) (3 pts.) [No need to simplify, but show all of your work. Circle your answer.]

Find the derivative of \( s(x) = \sin^5 (3x^2 - 2) \).