Prequiz 10

1. TRUE or FALSE: If \( F(x) = \int_0^x \sin x^2 \, dx \), then \( F'(x) = 2x \cos x^2 \).

2. TRUE or FALSE: According to the Fundamental Theorem of Calculus, \( \int_a^b f(x) \, dx = F(b) - F(a) \), where \( F(x) \) is any antiderivative of \( f(x) \).

3. TRUE or FALSE: \( \int_0^5 (25 - x^2) \, dx \) can be interpreted as the area between the graph of \( y = 25 \) and the graph of \( y = x^2 \).

4. TRUE or FALSE: \( \int c f(x) \, dx = c \int f(x) \, dx \) for any constant \( c \).

5. TRUE or FALSE: The area of the region between the graph of \( y = \sin x \) and the \( x \)-axis over the interval \( 0 \leq x \leq 2\pi \) can be found by \( \int_0^{2\pi} \sin x \, dx \).