Practice Quiz 8 (L24-L26)

1. Find the general antiderivative. $\int x^3(x^2+1)^{99}\,dx$.

2. What is the area of the region bounded by the curves $y = \frac{1}{2}\sec^2 x$, $y = -4\sin^2 x$, $x = -\pi/3$ and $x = \pi/3$?

3. Suppose $\int_0^1 f(x)\,dx = 3$. Find $\int_{-1}^0 f(x)\,dx$ if f is even. What is the value of the latter definite integral if f is odd?