Directions: Answer each question. Simplify.

1.) Find the most general antiderivative of \( f(x) = \sec^2(x) - \frac{1}{x} \). (2 pts)

\[
\tan x - \ln|x| + c
\]

2.) If \( f'(x) = 5x^3 - 6x^2 \) and \( f(1) = 1 \), then find \( f(x) \). (3 pts)

\[
f(x) = \frac{5}{4}x^4 - 2x^3 + \frac{7}{4}
\]

3.) Estimate the area under \( f(x) = x^2 \) from \( x = 0 \) to \( x = 3 \) using three approximating rectangles and right endpoints. (3 pts)