

Name _____

Homework 3
Section 7.3

Evaluate each of the following integrals. You may need to use the table of integrals found in the back of the textbook and/or the handout.

1. (6) $\int 2x \tan^{-1}(x^2) dx$

2. (7) $\int \csc^4 t dt$

3. (7) Given the following formula from a table of integrals,

$$\int x^2 \sqrt{x^2 + a^2} dx = \frac{x(x^2 + a^2)^{3/2}}{4} - \frac{a^2 x \sqrt{x^2 + a^2}}{8} - \frac{a^4}{8} \ln \left(x + \sqrt{x^2 + a^2} \right),$$

find the following antiderivative:

$$\int (x^2 - 6x + 9) \sqrt{x^2 - 6x + 34} dx$$