

Name _____

Homework 19
Section 6.1

1. (4ea) Determine the following indefinite integrals:

(a) $\int \left(x^9 + 12x^3 - \frac{1}{3}x + e \right) dx$

(b) $\int \left(\frac{1}{x} - \sqrt{x} \right) dx$

$$(c) \int 3x^2 (x^3 - x) dx$$

$$(d) \int \frac{6x^2 - 4x^3}{2x} dx$$

2. (5) The marginal profit (in thousands of dollars) for a small furniture manufacturer is given by $P'(x) = \frac{1}{\sqrt{x}} - x + 8$, where x is number of items sold. Determine the company's profit function, given that their profit is \$1900 when 4 items are sold.