MA 16020 LESSON 5: INTEGRATION BY PARTS (PROBLEM SET)

Example 1: After t weeks, contributions in response to a local fund-raising campaign were coming in at the rate of

$$2000te^{-0.2t} \quad \text{dollars per week.}$$

How much money was raised in the first 5 weeks?

Example 2: **Find the area bounded by the curves**

$$y = 9x^3 \ln(x) \quad y = 0 \qquad x = 1 \qquad x = 7$$

(Round your answer to two decimal places.)

When samples of iron ore are tested for potential mining sites, the probability (0 to 1) of finding a sample that has x percentage of iron in the sample is described by

$$\frac{49}{22} \cdot \frac{x}{\sqrt{1+5x}}$$

where x is also between 0 and 1. Find the probability that a tested sample of iron ore is at least 79% iron. (Round your answer to four decimal places.)