Scanned Exam Four Math 180, Business Calculus, Summer 2017

Name:

Directions: Please answer the following questions. You may print the assessment and write your solutions out or write up your solutions using a tablet. You must show justification for each solution or you will not receive full credit for the problem. Each problem is worth ten points. Scan your solutions and upload them to the named folder under the MyMathLab Dropbox by **11:59 PM CDT, Thursday, July 27th**.

Problem 1. Evaluate the following integrals:

(a) $\int -8x^3 + 6x^2 - 2x + 5 \, dx$

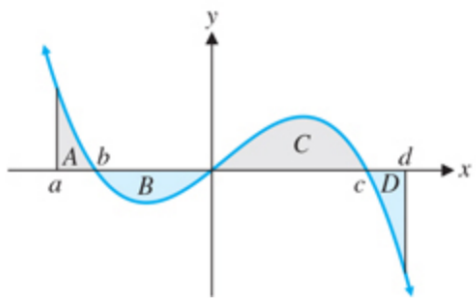
(b) $\int 2xe^{x^2+1} \, dx$

Problem 2. Evaluate the definite integral by applying the Fundamental Theorem of Calculus. State an exact answer.

(a) $\int_0^4 \frac{1}{\sqrt{x}} - 2x^3 \, dx$

(b) $\int_0^2 x\sqrt[4]{4-x^2} \, dx$

Problem 3. Use the figure to answer the questions that follow.



Area $A = 1.408$
Area $B = 2.475$
Area $C = 5.333$
Area $D = 1.792$

Figure 1: y=f(x)

(a) $\int_0^d f(x)dx$

(b) $\int_d^a f(x)dx$

(c) $\int_b^b f(x)dx$

(d) $\int_b^0 f(x)dx$

Problem 4. The total cost (in dollars) of printing x dictionaries is $C(x) = 20,000 + 10x$.

(a) Find the average cost per unit ($\bar{C}(x)$) if 1,000 dictionaries are producted.

(b) Find the average value of the cost function over the interval [0, 1,000].

(c) Explain briefly why the two averages are so different from each other.