Math 152

Show your work   January 18, 2011   Name _____
  Good Luck!   Quiz #2 D   please print

1. State (carefully and completely) Part 1 of the Fundamental Theorem of Calculus.

    If

    then

(2)

2. (a) An antiderivative of $f(x) = 5x^2 + \dfrac{4}{x} - 3$ is F(x) = _____

    (b) An antiderivative of $f(x) = \cos(2x + 3) + \sqrt{x}$ is F(x) = _____

(2)(2)

3. Evaluate (show work. 2 decimal places)

$$\int_0^2 12x^2 + 1 \; dx \;\; = \;\; \rule{3cm}{0.4pt}$$

(3)

$$\int_0^1 6x^3 + e^x \; dx \;\; = \;\; \rule{3cm}{0.4pt}$$
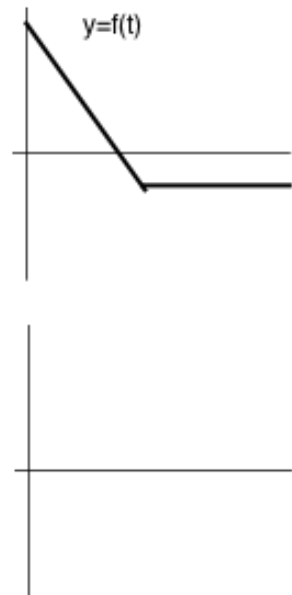
(3)

4. The figure shows the

    graph of y=f(t)

(2)

    Carefully sketch

    the graph of

$$y = A(x) = \int_0^x f(t) \; dt$$

5. You begin at the origin of the number line (x-axis) at time t=0, and our velocity along the x-axis at

    time t minutes is $v(t) \;\; = \;\; 3t - t^2$ feet/minute.

(3) (a) From time t=0 to t=4 minutes, what total distance did you walk? _____

(3) (b) What is your location on the x-axis when t =4? _____

6.   (a) How old was Newton when he discovered calculus (+/- 2 years)? _____

(1)(1)   (b) What was Leibniz' main profession/job? _____