

Score: ____ out of 20 points

This quiz is due at the beginning of class on Wednesday, 4 April. The work you hand in must be your own. Show all your work!

(6) 1. Find the general antiderivative of each of the following:

(a) $f(x) = 4x^4 - 6x + 5$

(b) $f(x) = 10 \sin(x)$

(4) 2. Use four rectangles and right endpoints to estimate the area A under the graph of $f(x) = 2x^2 + 4$ over the interval $[-1, 1]$.

- (4) 3. A car is traveling at 88 feet per second when the brakes are applied, producing a constant deceleration of 20 feet per second per second. How many feet does the car travel before it comes to a stop?

- (6) 4. A farmer wishes to fence a rectangular field. A straight river bounds one side of the field (and so requires no fencing). See the figure below. If the farmer wants the field to enclose a total area of 20,000 square yards, find the dimensions x and y which will minimize the amount of fencing required.

