In-Class Assignment 9

MATH 141

Directions: Work neatly on a separate sheet of paper. Your group will hand in one write-up with everyone's name on it. **DO NOT** fold the corner over to hold everything together!

Work together on each problem; do not delegate different problems to different people.

1. Use the definition of the definite integral to find the area under the graph of the given function. Then use a geometric formula to compute the same area and compare.

   (a) $f(x) = 5$ between $x = 2$ and $x = 6$.

   (b) $f(x) = 2x$ between $x = 0$ and $x = 6$.

2. A car has velocity given by $v(t) = 2t^2 + t$ m/s. Use the definition of the definite integral to find the car's displacement between $t = 0$ and $t = 4$s.