**In-Class Assignment 9**

**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 \( t = 4s \).