1. Suppose f is a twice differentiable function such that $f''(t) = t - \cos t$, $f'(0) = 2$, and $f(0) = -2$. Find $f'(t)$. Then find $f(t)$.

2. Let $g(x) = x^2 - x + 1$.

   (a) Subdivide the interval $[1, 4]$ into three equal subintervals and compute R_3, the value of the right-endpoint approximation to the area under the graph g on the interval $[1, 4]$.

   (b) Sketch the graph of g and the rectangles that make up your approximation. Is the area under the graph larger or smaller than R_3?