1. Let $I = \displaystyle\int_0^1 \sin(x^2)\, dx$

   (a) Calculate L_{10}.
       Will this overestimate or underestimate I?
   (b) Calculate R_{10}.
       Will this overestimate or underestimate I?
   (c) How accurate are your approximations to the true value of I?
   (d) Approximate I accurate within 0.001.

2. Let $I = \displaystyle\int_{-3}^3 \cos\left(\frac{x^2}{3}\right) + 3\, dx$.

   Approximate I accurate within 0.02 of its actual value.