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

1. Use Maple to graph $y = x\sin(x^2)$ for $0 \le x \le 1$

2. Calculate L_4 by hand. Does this overestimate or underestimate I?

3. Use Maple to draw L_{10} and R_{10}.
   (Use the leftbox() and rightbox() commands)

4. Use Maple to calculate L_{10} and R_{10}.
   (Use the leftsum() and rightsum() commands)
   How does I compare to L_{10} and R_{10}?

5. Find the exact value of I by using u-substitution.
   Does this agree with your previous answers?