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

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

2. Write L_{10} using sigma notation.

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

4. Use Maple to calculate L_{10} and R_{10} (Use leftsum() and rightsum())
   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?