

Let  $I = \int_{-2\pi/3}^{\pi/4} \sin(x^2) dx$ .

1. Find  $n$  so that  $L_n$  approximates  $I$  within 0.001 of its actual value.
2. Find  $n$  so that  $T_n$  approximates  $I$  within 0.001 of its actual value.
3. Find  $n$  so that  $M_n$  approximates  $I$  within 0.001 of its actual value.
4. Which would you rather do?