

4 (7 points)  
 $0 \leq x \leq \pi$

Compute the average value of the function  $f(x) = x^2 \sin(x)$  on the interval

5 (6 points)  
converges.

Is the improper integral  $\int_1^\infty \frac{2}{t^2 + 4t + 4} dt$  convergent? Evaluate it if it