

**Quiz Two**Lecture:  8:30  
 9:30SI:  Alex  Becca  
 Ashley  Jason  
 Avni  Matt**No notes. Calculators are allowed.**

Write clearly and explain your reasoning.

 1 (10 points) Compute the following integrals.

(a) (5 points)  $\int t^2 \sin(t) dt$

(b) (5 points)  $\int_0^2 \frac{x}{x^2+1} dx$

2 (5 points) The depreciation rate of a house in today's housing market obeys the equation  $V'(t) = -12,000te^{-2t}$ , where  $V(t)$  is the value of the house in  $t$  years. If the house is currently worth \$180,000, what will it be worth in two years? Please round your answer to the nearest dollar.

3 (5 points) The marginal cost function for producing  $x$  units is  $9x^2 - 50x + 200$  dollars. Find the increase in cost if production is increased from 100 to 105 units.