Math 10A with Professor Stankova
Quiz 8; Wednesday, 10/18/2017
Section #106; Time: 10 AM
GSI name: Roy Zhao **Name:** _____

Circle True or False or leave blank. (1 point for correct answer, -1 for incorrect answer, 0 if left blank)

1. True False When integrating by parts, if we set $dv = 2xdx$, then we need to set $v = x^2$.
2. True False Simpson's method always gives the exact answer when integrating a cubic function.

Show your work and justify your answers. Please circle or box your final answer.

3. (10 points) (a) (7 points) Integrate $\int \cos(\sqrt{x})dx$.

(b) (3 points) What is the smallest number of intervals n you need to use in order to guarantee that the trapezoid approximation of $\int_0^1 \frac{x^3}{6}dx$ is within $\frac{1}{12 \cdot 101}$. (The error bound using trapezoid approximation is $\frac{K_2(b-a)^3}{12n^2}$.