Name _____

Homework 33
section 5.3

1. (6) What is the average value of the function $g(x) = \sqrt{16 - x^2}$ on the interval $[-4, 4]$? Give an exact answer.

2. (6) What is the average value of $f(x) = \frac{12}{(x+3)^2}$ on the interval $[-2, 3]$? (Use the ALLSUMS program with N=250 to estimate the value of the integral by averaging the left-hand and right-hand approximations)

3. (8) Given $g(x) = \sin(x^2)$, use the Fundamental Theorem of Calculus to find $\int_{-\sqrt{\frac{\pi}{2}}}^{\sqrt{2\pi}} g'(x)\, dx$.