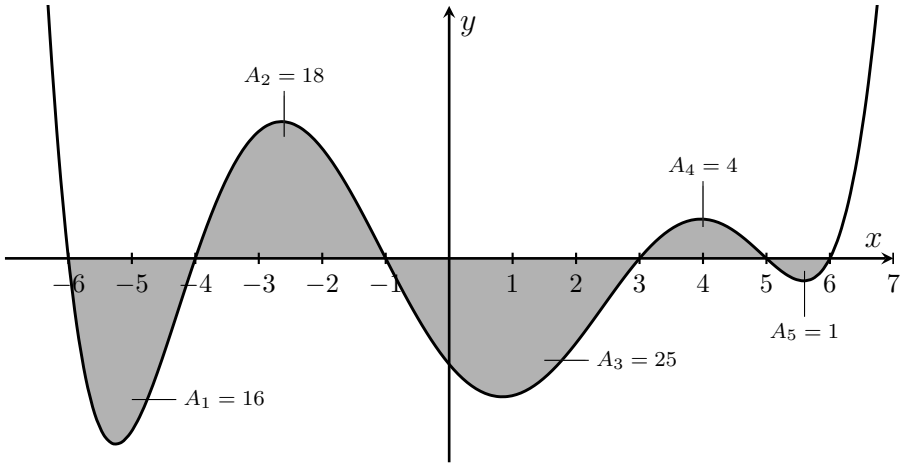
Name _____

Homework 20
Section 6.3

1. (9) Use the graph of $f(x)$ below to determine the desired quantities.



(a) $\displaystyle\int_{-6}^{-4} f(x)\,dx$

(b) $\displaystyle\int_{-4}^{5} f(x)\,dx$

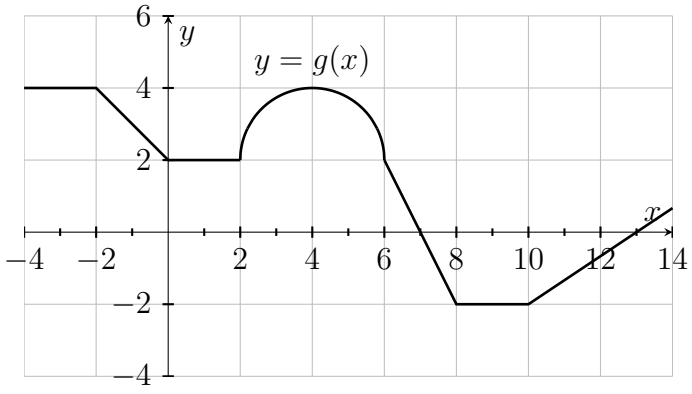
(c) $\left|\displaystyle\int_{-4}^{3} f(x)\,dx\right|$

(d) $\displaystyle\int_{3}^{5} \big(3 + f(x)\big)\,dx$

(e) $\displaystyle\int_{-6}^{6} f(x)\,dx$

(f) What is the total shaded area?

2. (6) Use the graph of $g(x)$ shown below to compute the exact value of the indicated quantities.



(a) $\displaystyle\int_{-2}^{2} g(x)\,dx$

(b) $\displaystyle\int_{2}^{6} g(x)\,dx$

(c) $\displaystyle\int_{6}^{10} g(x)\,dx$

3. (2ea) Consider the function $f(x) = x^3 - 5x + 1$. Estimate $\int_1^7 f(x)\,dx$ using 3 subintervals ($n = 3$) via the following methods:

   (a) Use left endpoints

   (b) Use right endpoints

   (c) Use midpoints