GROUP WORK 2, SECTION 5.2

Exploring Definite Integrals

1. Let $f(x)$ and $g(x)$ be functions that we know very little about. In fact, all we know is that $\int_1^4 f(x)\,dx = 7$, $\int_2^4 f(x)\,dx = 5$, and $\int_1^4 g(x)\,dx = 2$.
Using only this information, compute the following.

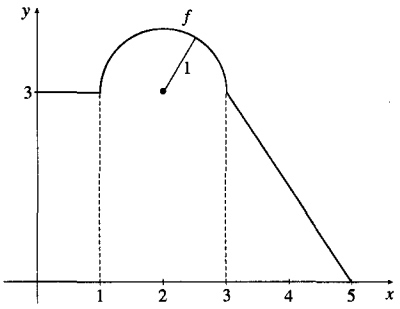
(a) $\int_1^4 4f(x)\,dx$

(b) $\int_1^4 [g(x) - f(x)]\,dx$

(c) $\int_1^4 [8f(x) - 7g(x)]\,dx$

(d) $\int_1^2 [-f(x)]\,dx$

2. Consider this function f:



Compute the following:

(a) $\int_0^2 f(x)\,dx$

(b) $\int_1^3 f(x)\,dx$

(c) $\int_0^4 f(x)\,dx$

(d) $\int_0^5 f(x)\,dx$