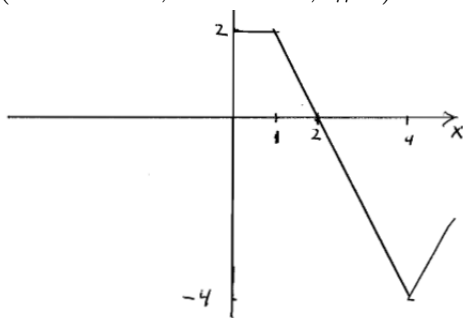


Review Problems

November 18, 2016

1. (Fall 2003, Exam Final, #20) If $\int_2^3 f(x) dx = 3$ and $\int_5^2 f(x) dx = 4$, then find $\int_3^5 f(x) dx$.
2. (Fall 2005, Exam 3, #5) Given $\int_1^4 \sqrt{x} dx = \frac{14}{3}$, evaluate $\int_1^4 (2 + 3\sqrt{x}) dx$.
3. (Fall 2005, Exam 3, #6) From the graph below evaluate $\int_1^4 f(x) dx$.



4. (Fall 2007, Exam 3, #10) Find the left-endpoint Riemann sum to estimate the area under the graph of $f(x) = \sin x$ from $x = 0$ to $x = \pi$ using four approximating rectangles.
5. (Fall 2007, Exam Final, #17) Find the midpoint Riemann sum to estimate the area of the region under the graph of $f(x) = \cos x$ and above the x -axis from $x = -\frac{\pi}{2}$ to $x = \frac{\pi}{2}$, using two approximating rectangles.
6. (Fall 2008, Exam Final, #16) If $\int_{-2}^2 f(x) dx = 2$ and $\int_0^2 f(x) dx = 3$, then find $\int_{-2}^0 f(x) dx$.