

# Homework 11

Name:

Date: June 16, 2015

**P 1.** Using the limit definition of the definite integral, find

$$\int_{-2}^2 3x^2 + 2x - 1 \, dx$$

**P 2.** Let

$$f(x) = \begin{cases} |x + 3| - 1 & x < -1 \\ 1 & -1 \leq x \leq 1 \\ 2 - x & 1 \leq x \end{cases}$$

Sketch the graph of  $f(x)$  and use the graph to answer the following.

(a)  $\int_{-2}^3 f(x) dx$

(b)  $\int_4^0 f(x) dx$

(c)  $\int_{-6}^{-4} 5f(x) dx$

(d)  $\int_{-6}^4 f(x) dx$

(e)  $\int_{-4}^{-2} |f(x)| dx$