

Name:

Section 5.4 – example

Math 151

1. Oil leaks out of a container at a rate of  $r = f(t)$  gallons per minute, where  $t$  is in minutes. Write a definite integral expressing the quantity of oil that leaks out of the container in the first hour.

2. Pollution is removed from a lake at a rate of  $f(t)$ kg/day on day  $t$ .

(a) Explain the meaning of the statement  $f(12) = 500$ .

(b) If  $\int_5^{15} f(t) dt = 4000$ , give the units of the 5, the 15, and the 4000.

(c) Give the meaning of  $\int_5^{15} f(t) dt = 4000$