

PRINT Your Name: \_\_\_\_\_

Quiz 4 — September 23, 2012 — Section 1 — 3:30 — 4:20

Remove everything from your desk except this page and a pencil or pen.

The solution will be posted soon after the quiz is given.

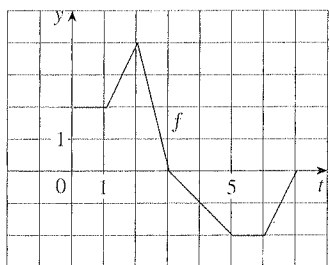
The quiz is worth 5 points.

Let  $g(x) = \int_0^x f(t) dt$ , where  $f$  is the function whose graph is shown.

(a) Find  $g(1)$ .

(b) Find  $g(5)$ .

(c) Where does  $g$  have a maximum value?



(a)  $g(1) = \text{area of } \begin{array}{|c|} \hline 2 \\ \hline \square \\ \hline 0 \\ \hline \end{array} = \boxed{2}$

(b)  $g(5) = \text{area of } \begin{array}{|c|} \hline 4 \\ \hline \square \\ \hline 2 \\ \hline \end{array} - \text{area of } \begin{array}{|c|} \hline 2 \\ \hline \triangle \\ \hline 0 \\ \hline \end{array} = 2 + 2 + 2 - 2 = \boxed{5}$

(c)  $g(3)$  is the maximum value of  $g(x)$ .  
 $g$  increases on  $[0, 3]$   
 $g$  decreases on  $[3, 6]$