

8. (7 pts.) A function  $f$  is defined for all values of  $x$  and the following is a partial table of its values.

$x$	-0.75	-0.5	-0.25	0.000	0.25	0.5	0.75
$f(x)$	1.968	2.214	2.490	2.800	3.149	3.542	3.983

(a) Using only the function values from the table, give your best estimate for  $f'(0)$ .

(b) Based on these function values, would you expect that the function  $f$  is concave up, concave down, linear, or none of these? Why?