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

.246 .276 .31 .349 .393 .441

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

Either: $\frac{3.149-2.800}{.25} = 1.396$

or $\frac{2.8-2.490}{.25} = 1.24$

or $\frac{3.149-2.490}{.5} = \frac{1.396+1.24}{2} = 1.318$

any of these.

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

The function appears to be concave up, because the rate of change is increasing. Note that the Δx is .25 for each, and Δf = .246, .276, .31, , .441.