**3.*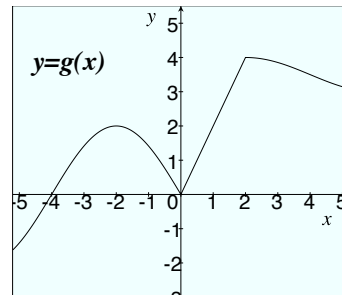* [14 points] Use the following table and graph to answer the questions below. Note that the graph of g passes through the points $(-2, 2), (0, 0)$, and $(2, 4)$. All answers should be exact.

x	-4	-3	-2	-1	0	1	2	3	4
$f(x)$	0	1	-1	2	-1	-3	2	4	1
$f'(x)$	-1	1	-2	3	-2	2	0	3	2

y=g(x)

a. [4 points] Let $k(x) = g(x)\arctan(f(x))$. Compute $k'(-2)$ or explain why it does not exist.

b. [4 points] Let $a(x) = \dfrac{(f(x))^3}{3g(x)}$. Compute $a'(1)$ or explain why it does not exist.

c. [6 points] Let $h(x) = g(g(x))$.
Find all local maxima and minima of the function h on the interval $(-4, 4)$.
Then find the global maximum and global minimum values of h on the interval $[-4, 4]$.