**5.*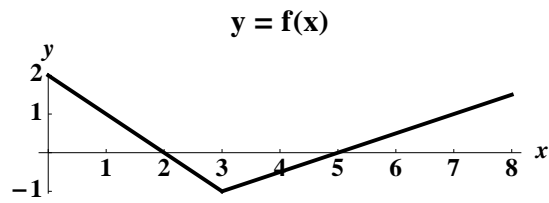* [12 points] The graph of $f(x)$ and a table of values for the continuous functions $g(x)$ and $h(x)$ are given below. The function $h(x)$ is an antiderivative of $g(x)$.

y = f(x)

x	0	1	2	3	4
$g(x)$	1	3	5	7	9
$h(x)$	-3	-1	3	9	17

Compute the **exact** value of each of the following expressions:

a. [1 point] $\int_0^7 |f(x)| dx$

b. [4 points] $\int_1^{e^2} \frac{f(\ln x)}{x} dx$

c. [7 points] Find $\int_1^2 x g'(2x) dx$