8. [8 points] Let f be a differentiable function with derivative f'. A table of values for f and f' is given below.

t	0	3	6	9
$f(t)$	1	2	7	5
$f'(t)$	1	4	-1	-2

Find the exact value of the following integrals.

a. [3 points] $\int_0^1 f'(3t)dt$.

b. [5 points] $\int_3^9 tf''(t)dt$.