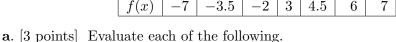**1.** [11 points] The table below gives several values of a continuous, invertible function $f(x)$. Assume that the domain of both $f(x)$ and $f'(x)$ is the interval $(-\infty, \infty)$.

x	0	3	6	9	12	15	18	21	24
$f(x)$	-7	-3.5	-2	3	4.5	6	7	9	19

a. [3 points] Evaluate each of the following.

(i) $f(f(15))$

Answer: $f(f(15)) = $ _____

(ii) $f^{-1}(3)$

Answer: $f^{-1}(3) = $ _____

(iii) $f^{-1}(2f(12))$

Answer: $f^{-1}(2f(12)) = $ _____

b. [2 points] Compute the average rate of change of f on the interval $3 \leq x \leq 18$.

Answer: _____

c. [2 points] Estimate $f'(19)$.

Answer: $f'(19) \approx$ _____

d. [2 points] Let $g(x) = f^{-1}(x)$. Estimate $g'(5)$.

Answer: $g'(5) \approx$ _____

e. [2 points] Suppose $f'(0) = 2$. Find an equation for the tangent line to the graph of $y = f(x)$ at $x = 0$.

Answer: _____