Section 2.7: Additional Problems

1. The tangent line for the function $f(x)$ at $x = 3$ is $y = 4x + 5$. Find the values of $f(3)$ and the instantaneous rate of change of the function at $x = 3$, i.e. $f'(3)$.

2. The function $f(x)$ has a tangent line at $x = 4$ that goes through the points $(4, 1)$ and $(6, 11)$. Find the values of $f(4)$ and $f'(4)$.

3. The function $f(x)$ has a tangent line at $x = 2$ that goes through the points $(1, 10)$ and $(4, 1)$. Find the values of $f(2)$ and $f'(2)$.