

Date: _____

To receive any credit for the following problems, you must show complete and accurate work. Use proper limit notation and give exact answers unless otherwise noted.

1. Use the limit of the difference quotient to determine $f'(9)$ given $f(x) = \sqrt{x}$
2. Given $f(x) = x^2 + 5x - 3$, use the limit of the difference quotient to the equation of the tangent line to $f(x)$ at $x = 7$.