Derivative: Limit Definition

In problems 1-4, use the limit definition to find the derivative of the function

1. $f(x) = 9x + 3$	2. $f(x) = x^2 - 4x - 1$
3. $f(x) = \sqrt{3x + 2}$	4. $f(x) = \dfrac{2}{x - 6}$

In problems 5-6, find the slope of the tangent line of the graph at the given point

5. $f(x) = x^2 + 3$; (1,4)	6. $f(x) = 3x^2 - 2$; (2,10)

In problems 7-8, use the limit definition to find the equation of the tangent line at the given point

7. $f(x) = x^2 + 3$; (1,4)	8. $f(x) = x^2 - 5x + 2$; (2,-4)