Homework: Product and Quotient Rules

In Problems 1-3, Use the product rule to find the derivative

1. $f(x) = (9x + 2)(8x - 1)$	2. $f(x) = x(x^2 - x + 2)$
3. $f(x) = (x^2 + 4x)(3x - 5)$	

In Problems 4-5, find the quotient rule to find the derivative

4. $f(x) = \dfrac{5x^2 - 1}{8x + 2}$	5. $f(x) = \dfrac{x^2 + 5x + 4}{5x - 2}$

In Problems 6-8, find the derivative

6. $f(x) = \dfrac{x^2 - 7x + 2}{5}$	7. $f(x) = \dfrac{8}{5x^4}$
8. $f(x) = \dfrac{x^2 - 9}{4x + 12}$	

In Problems 9-11, find the derivative

9. $f(x) = \dfrac{x^2 - 16}{x^2 + 9x + 20}$	10. $h(x) = (3x - 1)^2$
11. $f(x) = \dfrac{x^2 - 7x + 2}{\sqrt[3]{x}}$	

In Problems 12-13, find the equation of the tangent line passing through the given point

12. $f(x) = (x^2 - 3x)(x + 2)$ $(1, -6)$	13. $f(x) = \dfrac{x - 4}{x + 8}$ $\left(2, \dfrac{-1}{5}\right)$

In Problems 14, Find the point(s), if any, at which the graph of f has a horizontal tangent line

14. $f(x) = \dfrac{x^2}{x-3}$	