Calculus AB: Classwork on 2.2 - 2.4 (Do not Write on)

Name: _____ Date:_____ Pd:_____

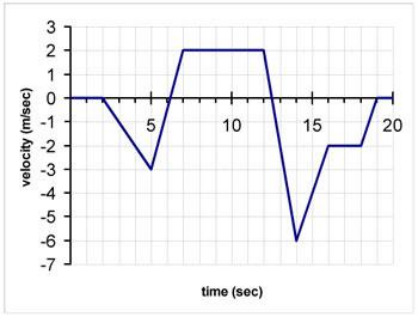
Find the derivative of the function. **Simplify your answer completely.** **Must be turned in before leaving.**

1. $y = \frac{1}{x^8}$	2. $f(x) = \left(-2x^2 + \tan 2x\right)^3$
3. $f(x) = \sqrt{x} - 6\sqrt[3]{x}$ (Put over common denominator)	4. $y = \frac{x^3 + 3x + 2}{x^2 - 1}$
5. $f(t) = 3t^2 \sin 2t$	6. $f(x) = x^4\left(1 - \frac{2x+1}{x^2}\right)$ (Simplify first!)
7. $f(t) = 5\csc\left(2t\right)^2$	8. $f(t) = \sec^4\left(2t^2 - t\right)$
9. $f(x) = \sqrt{x-1}\left(x^2+4\right)^2$	

Find the slope of the tangent line at the given x-value. Use the information to write an equation of the tangent line at the given point.

10) $f(x) = x^4 - 3x^2 + 2; \qquad x = 2$

Use the following for #'s 11 - 13



11. On what interval is the particle moving to the right? (estimate/round as best possible)

12. At t = 11, is the acceleration of the particle positive or negative?

13. Describe the particles acceleration at t = 17 seconds.