Name: _____

Curve Eligibility Assignment

If the total curve added...	(scratch score of...)	If you complete this	If you don't
36% points or more	(13.5 or lower)	You will get the complete curve + 2%	You will only get curve 1
36% points-30% points	(13.6 to 22.5)	You will get the complete curve +2%	You will lose 3% off of your curved score
30% points-20% points	(22.6 to 36)	You will get the complete curve + 2%	No penalty, complete curve
less than 20% points	(37 or greater)	Nothing! You got it! Give it a rest already!! You would be over 100% if I gave you anything more.	

I know this may seem really complicated, but I'm trying to be as fair as possible, since some people just got a big curve and some people got a **HUGE** curve, and I want to make sure the people who got a huge curve really get the material.

Derivatives

Find the derivative of each function.

1. $y = 4x^6$	2. $y = 3x^2 + 4x + 7$	3. $y = 8x^6 - 2x^{-2}$	4. $y = 7x - 5$
5. $y = 4x^{-3} + 6x^{2/3}$	6. $y = 1/x + 4/x^4$	7. $y = 3\sqrt{x}$	8. $y = 10\sqrt[5]{x}$

9. Explain why your answer to #4 makes sense based on what you learned in Math A.

Slope

Find the slope of each function at the given x-value.

10. Find the slope of $y = 5x^2 + 3$ at $x = 2$	11. Find the slope of $y = 1/2x^6 - 3x^2 - 7x$ at $x = 3$.	12. Find the slope of $y = \sqrt{x} + 4x$ at $x = 9$.

Find when each function has the given slope.

13. When does $y = 5x^2 + 3$ have a slope of 40?	14. When does $y = 2x^2 - 6x + 1$ have a slope of 10?	15. When does $y = 1/x$ have a slope of -1/9 ?

16. a) Write the limit definition for a derivative ("the long way").

b) Fill in the two ordered pairs that we are using in this formula

(x ,) (,)

17. Lily wants to find the slope of $y = x^3$ near $x = 2$.
a) Calculate the slope between $x = 2$ and $x = 2.01$ (math A, not calculus) using your calculator.

b) Why do we want the two x-values to be close to each other when we approximate?

c) Use calculus to find the exact slope at $x = 2$.