

@crahs16 – derivative practice**NAME:** _____ **PER:** _____ **DATE:** _____

On the following pages, there are practice problems designed to get you ready for the upcoming test. Your one goal for this practice time is simple: COLLECT 16 points completing various questions. The value of each question is written above it.

Record your work in your PRACTICE NOTEBOOK and record your answers on the chart below. Check on the wall for the correct answer. If you got it right, award yourself the points! Students who earn 16 points will get a raffle ticket!

Question #	YOUR ANSWER	Correct Answer	Points Earned
TOTAL POINTS			

**(Ask Mr. Solis for a hint, but lose a point!)*

1PTS each

1. (4.4) Write the function for the quotient rule and the product rule (NO PEEKING)
2. (4.4) Find the derivative of $y = 3$.

2PTS each

3. (4.4) Find the derivative of $y = x^4 - 1/2\cos x$
4. (5.0) Find d/dx of $e^{2x}\sin 3x$
5. (5.0) Find dy/dx for $y = \ln(x^2-4)$
6. (4.0) Without a graphing calculator, draw the graph of the derivative of $f(x) = 2x^2 + 3x + 5$

3PTS each

7. (4.1) Find the tangent line at $x = 1$ for the function $f(x) = (3x-2)/(2x-3)$
8. (5.0) Take the **second** derivative of $\sin^3 4t$.
9. (4.2) If a particle moves along a line according to a position function $s(t) = 10t^2 - 5t + 6$, when is the particle at rest?
10. (5.0) Find the derivative of $\sqrt[3]{9x^2 - 4}$

4PTS each

11. (4.4) Prove that the derivative of $\csc x$ is $-\csc x \cot x$.
12. (4.4) Explain why the derivative of a constant is zero.

6PTS

13. (4.2) If a particle moves along a line according to a position function $s(t) = 10t^2 - 5t + 6$, when is the particle at speeding up?
14. (4.1) Find the equation of a tangent line to $y = (3x^2 + 1)^4 \sqrt{3 - 2x}$ at $x = 0$
15. (4.2) Use the following terms in a complete, and academic sentence showing how they are related.

Derivative**Limit****Instantaneous Rate of Change**