

Sample! YOUR TEST WILL HAVE 6 PROBLEMS IN 15 MINUTES. *Sample!*

Math 151:4,5,6

10/26/2006

Name _____ Section _____

Second Computational Test (Derivatives)

NO CALCULATORS OR NOTES ARE ALLOWED.

Find $\frac{dy}{dx}$ in each case. Please do **not** simplify your answers. For example, the derivative of $37x^{46}$ may be written as $(46)37x^{45}$. SHOW DETAILS in the space next to each problem, but you may write your answer directly in the space for the answer if it follows directly from the differentiation algorithms.

1. $y = (\cos 2x)e^{5x}$

Answer to 1 _____

2. $y = \frac{x^2 + 5x - 1}{-7x^3 + 2}$

Answer to 2 _____

3. $y = 5 \ln(7 - 2x) + 6\sqrt{9x - 4} - \frac{2}{x^7}$

Answer to 3 _____

4. Find $\frac{dy}{dx}$ if $4y^2 - 7y^5 = 2x^3 + 2$. Express the answer in terms of x and y .

Answer to 4 _____

OVER

5. $y = (\cos(x^3) - 9 \sin(5x))^4$

Answer to 5 _____

6. $y = e^{5 \arctan x} + 2 \arcsin(5x)$

Answer to 6 _____

7. $y = \frac{7^x - 3^x}{x^5 + x^8}$

Answer to 7 _____

8. Find $\frac{dy}{dx}$ if $5x^3y^2 - 7ye^{2x} + 19 = 0$. Express the answer in terms of x and y .

Answer to 8 _____