

**CAL 12 Pass In Assignment****Name:****Chain, Chain, Chain — Chain of Rules! Product & Quotient, Too!**For each of the following functions, determine  $y'$ .

1.  $y = \sin(\ln(6x))$

2.  $y = \ln(e^x)$

3.  $y = \log_5(x^3)$

4.  $y = e^{\cos x}$

5.  $y = \frac{\sin x}{e^{4x}}$

6.  $y = \ln(7x^2) e^{\sin x}$

7.  $y = \ln(\cos 8x)$

8.  $y = \sin(\ln(2x^5))$

9.  $y = \log_7(\tan 8x)$

10.  $y = \ln(5x^7 + 3x^5) (\log_6 e^x)$