

Math 121 HW #9

Section 4.3 # 22, 31, 55a

Section 4.4 # 10, 16

4.3 #22  $5(2x^3 + 9x)^4 \cdot (6x^2 + 9)$

4.3 #31  $-6t \cdot (4(5t^4 - 1)^3 \cdot 20t^3) + (5t^4 - 1)^4 \cdot (-6)$

4.3 #55a  $A = 1500 \left(1 + \frac{r}{36500}\right)^{1825}$

$$\frac{dA}{dr} = 1500 \cdot 1825 \left(1 + \frac{r}{36500}\right)^{1824} \cdot \frac{1}{36500}$$

a. at  $r = 0.06$ ,  $\frac{dA}{dr} = 101.22$

4.4 #10  $-5e^{4x^3} \cdot 12x^2$

4.4 #16  $(3x^3 - 4x) \cdot -5e^{-5x} + e^{-5x} \cdot (9x^2 - 4)$