**Fall 2020 Math 208 – Test Chapter 9**

**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**5 Points for each problem. SHOW ALL WORK!**

1. **f(x)**

**2**

**1**

**x**

**3**

**-1**

**-2**

**2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Find**

**3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Find**

**4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Find**

**5 & 6. Use the four step process to find the derivative of**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**In Problems 7-14, find each derivative and simplify your answer. Apply the rules for computing derivatives. You may leave answers with negative exponents.**

**7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**11.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**12.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**13. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**14.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**15.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ If Find**

**16.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Find values of X where the tangent lines are**

**horizontal for the curve**

**17. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ The total cost of producing X TVs in dollars is**

**Find the exact cost of producing the 101st TV**

**18. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ For the total cost function in Problem 17,**

**Use marginal cost to approximate the cost of**

**producing the 101st TV**

**19. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Let be the price demand equation for x units of production**

**Find the revenue function R(x)**

**20. Suppose the total revenue in dollars of manufacturing X units of a product is**

**And the total cost of X units is**

**a)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Find the profit function**

**b)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Find the marginal profit function**