Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **AP Calculus AB 3.3 Worksheet**

**Remember:** **SHOW ALL WORK!**



**Find the derivative of each:**

1. f(x) = sinx +x2 2. f(x) = ex (cosx)

3.  4. G(x) = (lnx)(tanx)

5.  6. y = (lnx)(ex)

7. h(x) = (3x2+2x+1)cosx 8. h(x) = (x2 + ex)tanx

9. f(x) = (x2 + ex)(cosx + lnx) 10. 

11. y = x5 + 5x4 – 10x – 7 12. 

13.  14. 

15.  16. 

17.  18. 

19. Find the slope of the curve y = x2 – 4x at the points where it crosses the x-axis.

20. A population of 5,000 bacteria is introduced into a culture and grows according to the equation , where t is hours. Find the rate at which the population is growing when t = 2.