Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Derivative Review**

1. What’s the difference between average rate of change and instantaneous rate of change?

2. Draw a sketch of f’(x) given f(x) 3. Draw a sketch of f(x) given f’(x)

4. The position of an object is given by . What is the average velocity over the interval [1, 4]?

5. Given the position of a function , what is the instantaneous rate of change of F?

6. Given the position of a function , what is the instantaneous rate of change at t=2?

**For 7-8, use the formal (limit) definition of the derivative the find the derivative**

7.  8. 

.

9. Find  10. Find  11. Find 

12. Find f’(x) for 13. If , find f’(8)

14. For find f’(x), f’’(x), f”’(x) and fIV(x)

15. Find the equation of the tangent line to  at x = 2

16. Find the equation of the tangent line to  at x = 6

17. Knowing that f(-3) = 12, f’(-3) = 9, g(-3) = -4, g’(-3) = 7, h(-3) = -2 and h’(-3) = 5, determine

A.  B.  C. 

Find the derivative of the function

18.  19.  20. 

21.  22.  23. 

24.  25. 

Find f’(1) for each function

26.  27. 