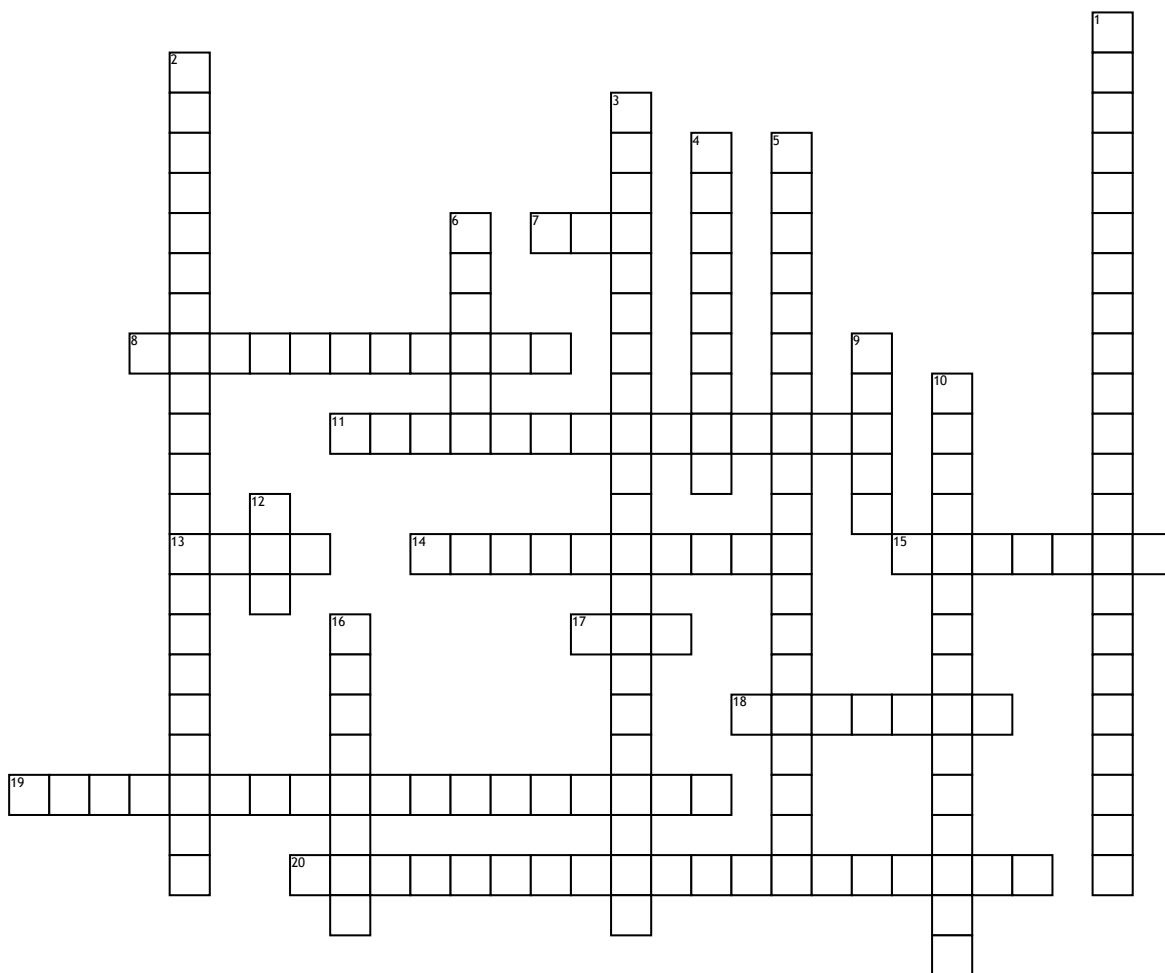


Name: \_\_\_\_\_

Date: \_\_\_\_\_

# Calculus so far



## Across

7. (1) must state  $[a, b]$  is continuous (2)  $f(a) < L < f(b)$  (3) By  $\epsilon - \delta$ , then there is a value  $c$ , such that  $f(c) = L$

8.  $y - f(a) = M \tan(x - a)$

11. (first step): State the given (second step): find  $\lim_{x \rightarrow 0} f(x)$  and  $h(x)$  (third step): Therefore by  $\epsilon - \delta$ ,  $g(x) = \lim_{x \rightarrow 0} h(x)$  and  $f(x)$

13. Opposite/Hypotenuse

14. line passing through 2 points on a curve

15. Opposite/Adjacent

17. Abbreviation for "Does not exist"

18. a rule or other branches of mathematics expressed by symbols or formula.

19. A function,  $F$ , is continuous at "a" if  $\lim_{x \rightarrow a} f(x) = f(a)$ .

20. (1)  $f(a)$  is undefined (2)  $\lim_{x \rightarrow a} f(x)$  exists (3)  $\lim_{x \rightarrow a} f(x) = f(a)$

## Down

1. A function  $f$  is continuous on an interval  $I$ , if it is continuous at all points of  $I$ . If  $I$  has continuous endpoints, continuity on  $I$  leans right or left continuous at endpoints.  $\text{ri}$

2. determined by computing average velocities over intervals that decrease in length

3. A function  $f$  is continuous from the left at  $a$  if  $\lim_{x \rightarrow a^-} f(x) = f(a)$ , same with right

4. Best Honors Calculus teacher at SHS

5. on  $[a, x] = M_{\text{sec}} = (f(x) - f(a)) / (x - a)$

6. Adjacent/Hypotenuse

9. a unique number for which the average velocities approach as  $T_1 \rightarrow T_0$

10. change in position/change in time

12. Abbreviation for "undefined"

16. a rule that assigns to each value  $X$  in a set  $D$  a unique value denoted  $f(x)$ .