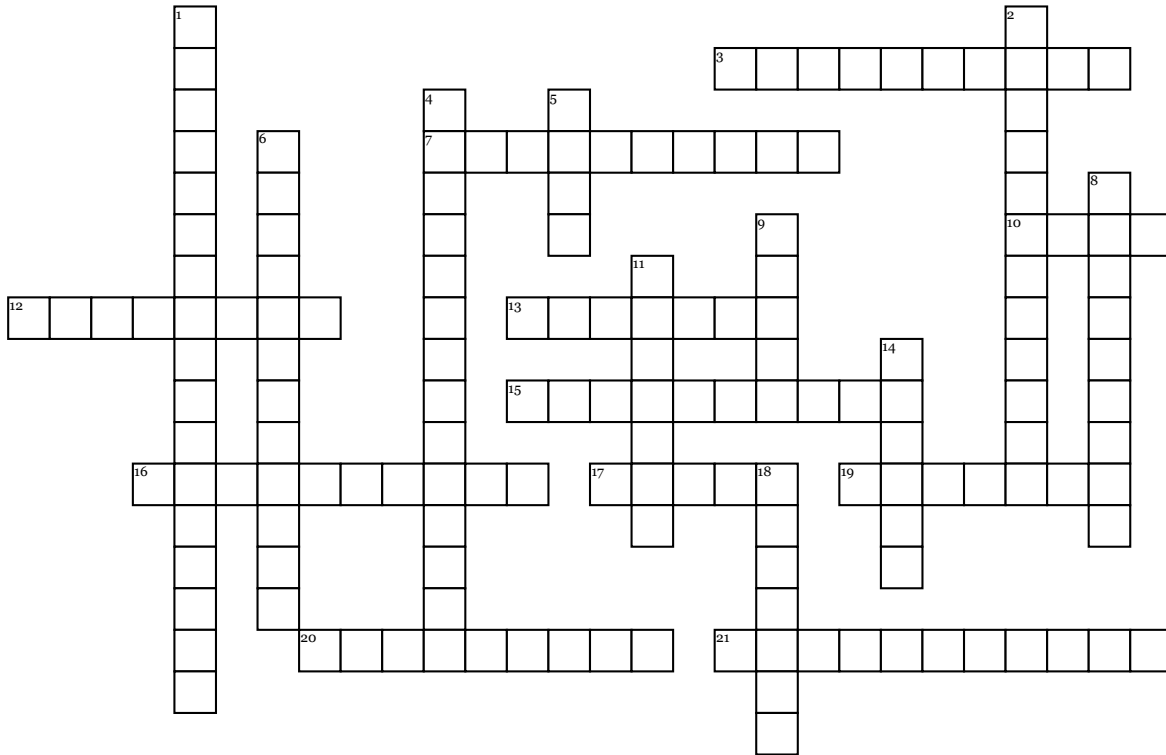


Name: _____

Differentiation



Across

- 3.** when a graph has no breaks and can be drawn without picking up the pencil
7. when the derivative of a graph is positive
10. The change in the value of a quantity divided by the elapsed time. For a function, this is the change in the y-value divided by the change in the x-value for two distinct points on the graph.
12. this type of differentiation has both the x and y values on the same side
13. The point at which an extrema changes from positive to negative
15. For functions that act on the real numbers, this is the slope of the tangent line at a point on a graph.
16. when the derivative of a graph is negative

- 17.** a line or outline that gradually deviates from being straight for some or all of its length.
19. A line that touches a curve at a point without crossing over.
20. a fairly simple rule that helps you find the derivative of a variable raised to a power. All you do is take the exponent, multiply it by the coefficient (the number in front of the x), and decrease the exponent by 1.
21. $1 d^2 + 2 d 1$

Down

- 1.** a point on a curve at which the curve changes from being concave (concave downward) to convex (concave upward), or vice versa.
2. For any number c, if $f(x)=c$, then $f'(x)=0$ or $d/dx c=0$

- 4.** Meaning that something is able to be differentiated
5. The rate of change at a particular moment. Same as the value of the derivative at a particular point.
6. $lo d hi - hi d lo / lo lo$
8. refers to the directionality of a curve
9. the value that a function or sequence "approaches" as the input or index approaches some value
11. The point at which an extrema changes from negative to positive
14. a line that (locally) intersects two points on the curve.
18. any point at which the value of a function is largest (a maximum) or smallest (a minimum)