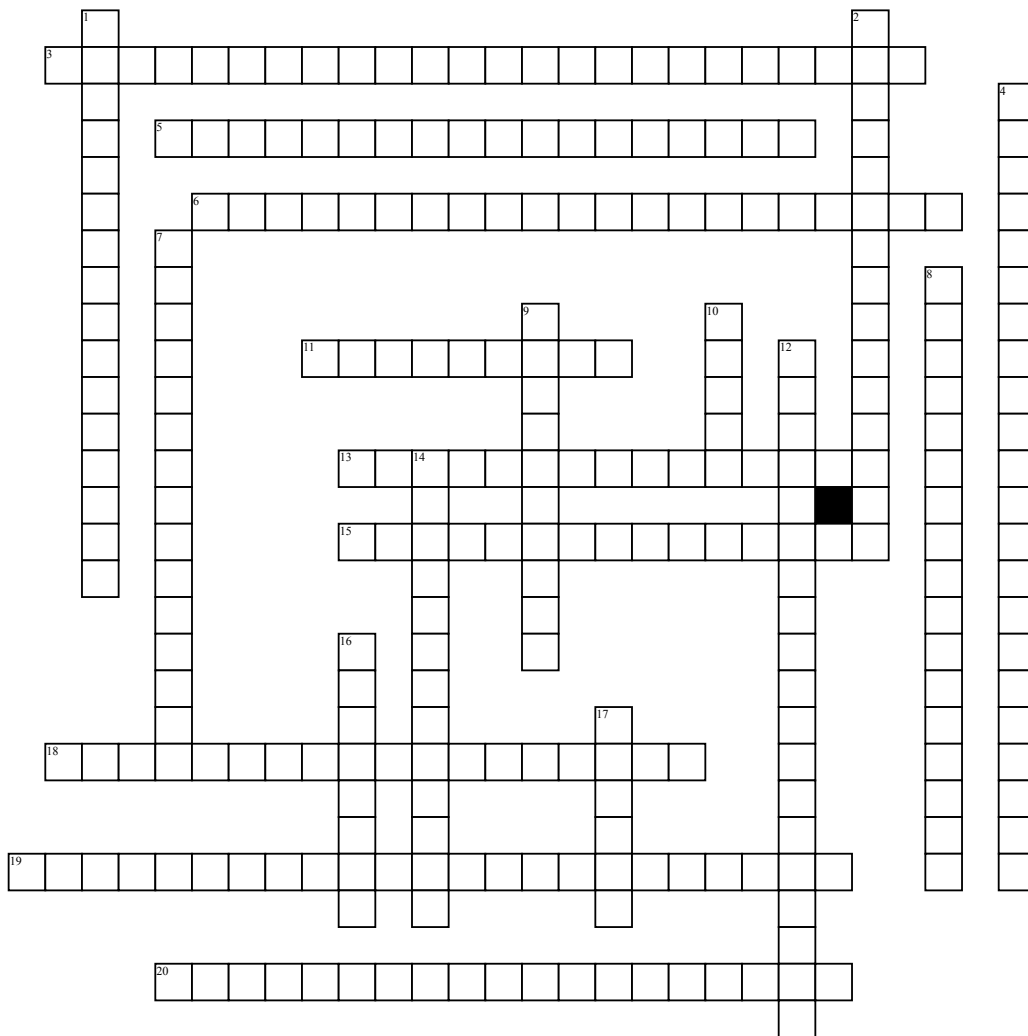


BASIC CALCULUS



Across

3. function $f(x)$ which is found to be continuous over a closed interval $[a, b]$ will take any value between $f(a)$ and $f(b)$.

5. function for which sufficiently small changes in the input result in arbitrarily small changes in the output.

6. A category of discontinuity in which a vertical asymptote exists at $x = a$ and $f(a)$ is undefined.

11. a line that continually approaches a given curve but does not meet it at any finite distance.

13. This says that the limit of a sum of functions is the sum of the limits of the individual functions. Subtraction is also included in this law, that is, the limit of a difference of functions is the difference of their limits.

15. The highest point over the entire domain of a function or relation

18. A category of discontinuity in which a function has a well-defined two-sided limit at $x = a$, but either $f(x)$ is not defined at a or its value at a is not equal to this limit.

19. This says that the limit of a multiple of a function is simply that multiple of the limit of the function.

20. This theorem states that if n is a positive integer, the limit of the n th root of a function is just the n th root of the limit of the function, provided the n th root of the limit is a real number

Down

1. a branch of mathematics concerned with the determination, properties, and application of integrals.

2. this point is interior to the domain and is the lowest point on the graph in an interval around it

4. is a point on the graph that is undefined or does not fit the rest of the graph. There is a gap at that location when you are looking at the graph.

7. is the x -value that makes the function equal to 0.

8. A category of discontinuity in which $f(x) \neq f(x)$, but both of these limits exist and are finite.

9. When the graph of a function has no holes, no gaps, no steps or no discontinuities

10. the complete set of all possible resulting values of the dependent variable (y , usually)

12. $f(x)$ which is found to be continuous over a closed interval $[a, b]$ is guaranteed to have extreme values in that interval.

14. A point or value of the independent variable at which the value of a function is not equal to its limit as the value of the independent variable approaches that point, or where it is not defined.

16. the branch of mathematics that deals with the finding and properties of derivatives and integrals of functions, by methods originally based on the summation of infinitesimal differences.

17. he value A to which a function $f(x)$ gets arbitrarily close as the value of the independent variable x gets arbitrarily close to a given value a

Word Bank

Range

Infinite Discontinuity

Jump Discontinuity

Constant Multiple Theorem

Relative Minimum

Continuous

Point Discontinuity

Absolute Maximum

Zero of a function

Discontinuity

Asymptote

Extreme Value Theorem

Calculus

Removable discontinuity

Intermediate Value Theorem

Integral Calculus

Continuous Function

Addition Theorem

Radical/Root Theorem

Limits