Calculus Concepts to Know

Understand the concept of a limit. Calculus is built on the concept of limits. Derivatives and integrals are limits. Many proofs in mathematical statistics involve limits as well. A good place to start:

https://www.khanacademy.org/math/ap-calculus-ab/ab-limits-continuity/ab-limits-graphically/v/introduction-to-limits-hd

Once you understand the concept of a limit, make sure that you understand that the derivative of a function y = f (x) is the change in y for a small change in x. "Small" means small as possible, or alternatively, when the change tends to zero

Recall, too, that the derivative is the slope of a function at some particular point or the instantaneous rate of change. This is a good place to start:

https://www.khanacademy.org/math/calculus-home/taking-derivatives-calc

Also, remember that we use derivatives to find critical points (maxima and minima of functions. See this video:

https://www.khanacademy.org/math/ap-calculus-ab/ab-derivatives-analyze-functions/ab-critical-points/v/minima-maxima-and-critical-points

Then move on to integrals. You can think of integrals as antiderivatives. More importantly, for statistics, however, is to understand that the definite integral is the area under a curve (remember the fundamental theorem of calculus?).

Start here:
http://tinyurl.com/jr99fbd

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