Math B102: Calculus 2

Fall 2020

Section 1: MWF 10:10 – 11:00am, Prof. Myers
Section 2: MWF 12:10 – 1:00pm, Prof. Myers

This course continues where Math B101 left off. In it you will learn techniques and applications of the definite integral, and study sequences, series, power series and their convergence. In particular, you will see how to compute areas and volumes of regions and solids with curved sides (like those pictured at the bottom of the this page), determine the distance traveled by an object given only its speed (even if the speed is constantly changing), find the point where you can balance an object on the tip of your finger (as in the image above), and see how certain functions and numbers can be viewed as sums of infinitely many terms (like the two below).

\[
1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \frac{1}{9} - \text{(and so on forever)} = \frac{\pi}{4}
\]

\[
1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \text{(and so on forever)} = e^x
\]

Success in Math B102 requires understanding of the topics covered in Math B101 (including limits, derivatives, antiderivatives, and their applications) in addition to proficiency in the associated techniques. It also depends on algebraic and geometric intuition and skills.

What is the area in (a)?

What is the volume in (b)?

Learn the answers in Math B102!

Images: Magic Balance Bird (above) and Mathematics LibreTexts (below)