



## Calculus

A Joint Position Statement of the Mathematical Association of America  
and the National Council of Teachers of Mathematics

**Question:** How should secondary schools and colleges envision calculus as the course that sits astride the transition from secondary to postsecondary mathematics for most students heading into mathematically intensive careers?

### MAA/NCTM Position

Although calculus can play an important role in secondary school, the ultimate goal of the K–12 mathematics curriculum should not be to get students into and through a course in calculus by twelfth grade but to have established the mathematical foundation that will enable students to pursue whatever course of study interests them when they get to college. The college curriculum should offer students an experience that is new and engaging, broadening their understanding of the world of mathematics while strengthening their mastery of tools that they will need if they choose to pursue a mathematically intensive discipline.

In particular, the fact that calculus is a college mathematics course that increasingly is taught in high school requires that—

1. Students who enroll in a calculus course in secondary school should have demonstrated mastery of algebra, geometry, trigonometry, and coordinate geometry;
2. The calculus course offered in secondary school should have the substance of a mainstream college-level course;
3. The college curriculum should acknowledge the ubiquity of calculus in secondary school, shape the college calculus curriculum so that it is appropriate for those who have experienced introductory calculus in high school, and offer alternatives to calculus.

Faculty in our colleges and secondary schools should work together to re-envision the role of calculus in secondary and postsecondary mathematics education. Faculty on both sides of the transition from secondary to college mathematics should work together to strengthen the mathematics curriculum so that students who intend to pursue a mathematically intensive career can acquire the mathematical knowledge and capabilities needed for such a career. College faculty and secondary teachers should define what it means for a student to be ready for college-level mathematics. After a student has matriculated in college, they should assess the effect of college-level mathematics offered in secondary school. They also should clarify and broaden what is meant by college-level mathematics for secondary school. They should also work to achieve a better understanding of the mathematical strengths and weaknesses of matriculating students,

assess the effectiveness of placement programs for collegiate mathematics, and clarify and broaden what the first year of college mathematics can and should entail.

MAA and NCTM are committed to taking appropriate action within the structure of their organizations to assist in guiding the implementation of these recommendations.