Cornell University
Department of Mathematics
MATH 5080 – Mathematics for
Secondary School Teachers

**NYS Master
Teacher Program**

Mathematics Professional Development (all sessions will be held via Zoom)
November 14, 2020 ◆ 9:00 am – 2:30 pm

9:00 – 9:15 am **Welcome & Overview**

9:20 – 10:20 am **Hidden Matrices in our Everyday Lives**
Alex Townsend (Department of Mathematics, Cornell University)

Searching the Internet, taking a digital photo, and watching the weather forecast all involve matrices and linear algebra. In fact, the modern computational world, from modeling to data science and medical imaging to chemistry, contains linear algebra as a key technology. In this talk, I will highlight how applications can bring clarity to linear algebra concepts and make us more influential educators.

10:30 am – 12:00 pm **Geometry in Wild Spaces**
Kathryn Mann (Department of Mathematics, Cornell University)

I'll give you a guided tour of some wild spaces where the usual rules of plane geometry do not apply: straight lines look curved and the angles of a triangle don't sum to 180 degrees. However, although these spaces look wild, they actually appear in the world around us. You might have already encountered them in the artwork of MC Escher, or perhaps if you have ever asked a physicist about the shape of our universe . . .

12:00 – 12:50 pm **Lunch & Discussion**

In breakout rooms, participants will discuss applications of the morning's presentations for their teaching. We will use the remaining time to return to the whole group for sharing.

1:00 – 2:00 pm **Problems to Ponder: You Know You Have a Really Good Problem for You and Your Students When . . .** (NCTM Webinar)
J. Michael Shaughnessy (Portland State University)

In this session I will share some of the best "Problems to Ponder" that I have encountered and used with many different groups of students and teachers for more than 40 years with elementary, middle, and secondary math teachers, prospective teachers, and their students!

2:00 – 2:20 pm **Whole-Group Discussion of NCTM Webinar**

2:20 – 2:30 pm **Closing**

Click here to RSVP (deadline – 12 noon on Tuesday, November 10, 2020)
Questions? Contact Mary Ann Huntley (huntley@math.cornell.edu)