







# Maine Township District 207

Transition to Integrated Mathematics

#MaineMathForward

#### Maine 207 Mathematics Curriculum Committee

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# Mathematics in the 21st century Integrated mathematics What and Why Implications for your student

#### Q & A

Notecards will be collected prior to the Q & A session. For questions about your individual student, please include your question and contact information (phone or email).

## Learning in the 21st Century



Never have the broader aims of mathematics education been more important than they are today when mathematics underlies much of the fabric of society.

- Matt Larson, NCTM president, 2016-2018

Mathematics empowers students to...

Expand professional opportunity
Understand and critique the world
Experience wonder, joy, and beauty

- Catalyzing Change in High School Mathematics, NCTM 2018

## **Mathematics Learning Today**



Collaborative Creative Connected 🔶 Visual Depth over Speed

## **Integrated Mathematics**

#### A curricular framework that integrates the 6 domains of the Common Core Standards

Number & Quantity, Algebra, Functions, Modeling, Geometry, Statistics & Probability

## Students' mathematical experience





College, Career, and Real-world Ready

## **The MVP Experience**



PRACTICE Understanding DEVELOP Understanding



#### Comprehensive Mathematics Instruction Framework

## Support for Integrated Mathematics

Used in essentially every other country **Common Core includes integrated pathway** Aligned with national, standardized tests Supported by NCTM High schools have adopted this locally, in Illinois, and nationwide



# Visits to local schools Teacher committee



- Professional development
- Collaboration & communication with sender schools

## **Traditional vs. Integrated Pathway**



What happens after Math 3?

PreCalculus Discrete math (dual credit) AP Calculus AB/BC Multivariable Calculus AP Statistics Additional 4th year courses

#### How will placement work?

All students who have not yet taken Algebra 1 will be placed in Math 1 their freshman year.

 Students currently in Algebra 1 or Algebra 2 will take a placement test in March. (past practice)

 Our goal is to work towards NOT having placement tests in the future.

# Q & A

Questions from notecards.



#### **Research behind Integrated**

Most mathematics curricula worldwide use an integrated approach, including many countries in which students perform better than the U.S. on international mathematics assessments such as TIMSS.

#### **Research behind Integrated**

Grouws, et al. (2013) found statistically significant effects in favor of integrated organization of mathematics content on three different measures of student learning.



Krupa (2017) found that students exposed to an integrated mathematics curriculum had higher Algebra 1 achievement than students on a subject-specific pathway.