Resolution 4 (SY24-25)

Resolution Requesting District 20 Create a Geometry Course for Middle Schools

Approved by a vote of 9-0 with 3 absences on 2/12/25

1. **Stephen Stowe - Yes**
2. **John Ricottone - Yes**
3. **Elizabeth Chan - Yes**
4. **Kevin Zhao - Yes**
5. **Meifang (Junmi) Chen - Yes**
6. **Wenming (Angie) Chen - Yes**
7. **Yanqing (Angi) ChenYes**
8. **Alina Lewis - Yes**
9. **Sabrina McNamara - Not Present**
10. **Maya Rozenblat - Yes**
11. **Tamara Stern - Not Present**
12. **Fabiola Mendieta-Cuapio - Not Present**

Sponsors: Stephen Stowe

Co-sponsors: John Ricottone, Yan Qing Chen, Alina Lewis

WHEREAS, public schools should provide education that meets the needs of all students, including those who are prepared, ready and capable of accelerated Science Technology Engineering Mathematics (STEM) education.

WHEREAS, while middle school education is likely 8-10 years or more before a students first career work experience, middle school should provide foundational knowledge to prepare qualified students for a pathway to the most advanced secondary and post-secondary STEM educational experiences.

WHEREAS, Math is the most structured pathway in the education system with a common understanding that certain courses are required prerequisites for advancing to the next level. Currently, a commonly accepted pathway for a student's secondary math education is Algebra, Geometry, Pre-Algebra, Trigonometry and Calculus.

WHEREAS, providing Geometry (and not just Algebra) to students in middle school creates a pathway for these students to move on to more advanced course-work than Calculus in high school. This could include AP Statistics, Linear Algebra, Euclidean Geometry, Differential Equations, Multivariate Calculus, Number Theory, AP Computer Science, or independent study. This will better position these students as they consider STEM college and career pathways.

MOREOVER, even if a high school does not offer credit for middle school Geometry and the student has to retake the course in high school, it is still worthwhile to take it in middle school. This resolution rejects the idea that repeating instruction in academic subjects is a waste of time. Repetition as well as learning from different teachers and in different environments with different course structures can significantly strengthen a students overall ability and confidence in math.

WHEREAS, there is also a benefit to our country and economy from ensuring our education system produces individuals educated in the most advanced STEM subjects possible. STEM includes a wide variety of fields with a wide variety of educational qualifications. Some STEM professions are undersupplied. Some are oversupplied.[1] There isn't so much a STEM workforce shortage, as there is a constantly evolving market for skills.[2] It is beyond the scope of this resolution to provide a comprehensive assessment of STEM skills most in demand now and in the future. But there will always be a need to produce not just a large quantity of STEM degree-holders but also produce STEM degree-holders in the most advanced, innovative, cutting-edge STEM fields of any particular time.

FURTHERMORE, currently, a very high proportion of the most advanced STEM degree recipients produced by the US education system are non-citizens. For Masters degrees granted in STEM fields, 45% are non-citizens. And 46% of Doctorate STEM recipients are non-citizens[3]. These graduates often take employment opportunities outside of the US, reducing the number of applicants for the most advanced US-based STEM positions.

WHEREAS, Geometry is offered in 24% of middle schools nationally but only in 6% of New York State middle schools (Appendix 1)[4].

WHEREAS, several other middle schools in New York City offer Geometry as an 8th grade option. These schools include (but are not limited to) IS 239 and IS 228 in District 21 and JHS 67 and JHS 216 in District 26, and JHS 190 in District 28.

WHEREAS, in selecting students for Geometry in middle school, this resolution urges the use of a screened process using a test, grades, teacher assessment, student demonstrated interest, and parent / guardian consent.

THEREFORE, BE IT RESOLVED, the Community Education Council of District 20 respectfully asks of Superintendent Dr. David Pretto to "Let's Do This! - Add Geometry as an option for Middle School students in District 20".

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[1] Understanding the gaps in the US STEM labor market | Oxford Economics
[2] Is There Really a STEM Workforce Shortage?
[3] IPEDS
[4] Elementary and Middle School Opportunity Structures That Factor into Students' Math Learning: Findings from the American Mathematics Educator Study | RAND

Appendix 1

Percentage of Principals in Schools Serving Grades 6–8 Reporting That Each Course Is Offered in Their School

Course	National	California	Florida	New York	Texas
General Mathematics	91	95	89	91	86
Algebra I	54	22[*]	90[*]	74[*]	75[*]
Prealgebra	42	19[*]	82[*]	22[*]	34
Review or remedial mathematics	37	38	47	36	51
Geometry	24	11[*]	69[*]	6[*]	14[*]
Integrated Mathematics I	13	20	19	5[*]	4[*]
Computer Science	13	3[*]	15	7[*]	11
Algebra II	12	2[*]	10	5[*]	14

NOTE: This table uses principal survey response data for the following question (n = 1,191): "This school year (2022–2023), which of the following mathematics and computer science courses are offered onsite at your school?" In total, we inquired about 25 different courses, but for parsimony, we report only the eight most commonly offered courses in this table. Asterisks (*) indicate that the percentage of principals in a given state who reported that each course is offered is significantly different from the percentage of principals in other states ($p < 0.05$). This table includes only principals in schools serving grades 6–8.

Source: "Elementary and Middle School Opportunity Structures That Factor into Students' Math Learning - Findings from the American Mathematics Educator Study", RAND, February 6, 2024