Mathematics Program Questionnaire
Mathematics Program Questionnaire Tables

2018 NSSME+
Mathematics Program Questionnaire

This questionnaire asks a number of questions about teachers of mathematics. In responding, unless otherwise specified, consider ALL teachers of mathematics in your school, including self-contained teachers who teach mathematics and other subjects to the same group of students all or most of the day.

1. Which of the following describe your position? [Select all that apply.]

□	Mathematics department chair
□	Mathematics lead teacher or coach
□	Mathematics/STEM specialist
□	Regular classroom teacher
□	Principal
□	Assistant principal
□	Other (please specify: _____)

School Programs and Practices

2. ***[Presented only to schools that include self-contained teachers]***
Indicate whether each of the following programs and/or practices is currently being implemented in your school. [Select one on each row.]

		YES	NO
a.	Students in self-contained classes receive mathematics instruction from a district/diocese/school mathematics specialist **instead of** their regular teacher.	○	○
b.	Students in self-contained classes receive mathematics instruction from a district/diocese/school mathematics specialist **in addition** to their regular teacher.	○	○
c.	Students in self-contained classes pulled out for remedial instruction in mathematics	○	○
d.	Students in self-contained classes pulled out for enrichment in mathematics	○	○
e.	Students in self-contained classes pulled out from mathematics instruction for additional instruction in other content areas	○	○

3. ***[Presented only to schools that include any grades 9–12]***
Indicate whether each of the following programs and/or practices is currently being implemented in your school. [Select one on each row.]

		YES	NO
a.	Algebra 1 course, or its equivalent, offered over two years or as two separate block courses (for example: Algebra A and Algebra B, or Integrated Math A and Integrated Math B).	○	○
b.	Calculus courses (beyond pre-Calculus) offered this school year or in alternating years, on or off site.	○	○
c.	Students can go to a Career and Technical Education (CTE) center for mathematics instruction.	○	○
d.	This school provides students access to virtual mathematics courses offered by other schools/institutions (for example: online, videoconference).	○	○
e.	This school provides its own mathematics courses virtually (for example: online, videoconference).	○	○
f.	Students can go to another K–12 school for mathematics courses.	○	○
g.	Students can go to a college or university for mathematics courses.	○	○

4. Indicate whether your school does each of the following to enhance students' interest and/or achievement in mathematics. [Select one on each row.]

		YES	NO
a.	Holds family math nights	○	○
b.	Offers after-school help in mathematics (for example: tutoring)	○	○
c.	Offers formal after-school programs for enrichment in mathematics	○	○
d.	Offers one or more mathematics clubs	○	○
e.	Participates in a local or regional mathematics fair	○	○
f.	Has one or more teams participating in mathematics competitions (for example: Math Counts)	○	○
g.	Encourages students to participate in mathematics summer programs or camps (for example: offered by community colleges, universities, museums or mathematics centers)	○	○
h.	Coordinates visits to business, industry, and/or research sites related to mathematics	○	○
i.	Coordinates meetings with adult mentors who work in mathematics fields	○	○
j.	Coordinates internships in mathematics fields	○	○

Your State Standards

5. Please provide your opinion about each of the following statements in regard to your current state standards for mathematics. [Select one on each row.]

	STRONGLY DISAGREE	DISAGREE	NO OPINION	AGREE	STRONGLY AGREE
a. State mathematics standards have been thoroughly discussed by mathematics teachers in this school.	①	②	③	④	⑤
b. There is a school-wide effort to align mathematics instruction with the state mathematics standards.	①	②	③	④	⑤
c. Most mathematics teachers in this school teach to the state standards.	①	②	③	④	⑤
d. The school/district/diocese organizes mathematics professional development based on state standards.	①	②	③	④	⑤

Student Enrollment in Mathematics Courses

6. ***[Presented only to schools that include grade 8]***
Approximately how many of this year's 8th grade students will have completed Algebra 1 or its equivalent (for example: Integrated Math 1) prior to 9th grade? [Enter your response as a whole number (for example: 15).] _____

7. ***[Presented only to schools that include grade 8]***
Approximately how many of this year's 8th grade students will have completed Geometry or its equivalent (for example Integrated Math 2) prior to 9th grade? [Enter your response as a whole number (for example: 15).] _____

8. ***[Presented only to schools that include any grades 9–12]***
Approximately how many students in grades 9–12 in this school will **not** take a mathematics course this year? [Enter your response as a whole number (for example: 1500)] _____

Mathematics Courses Offered in Your School

[Questions 9–16 presented only to schools that include any grades 9–12; schools that do not include any of these grades skip to Q17]

9. What types of mathematics courses are offered to grades 9–12 students in your school **this year**? [Select all that apply.]

□	Single-subject mathematics courses (for example: Algebra, Geometry)
□	Integrated mathematics courses

10. Is your school offering any courses in each of the following categories **this year** for students in grades 9–12? [Select one on each row.]

	YES	NO
a. Non-college prep mathematics courses *Example courses*: Developmental Math; High School Arithmetic; Remedial Math; General Math; Vocational Math; Consumer Math; Basic Math; Business Math; Career Math; Practical Math; Essential Math; Pre-Algebra; Introductory Algebra; Algebra 1 Part 1; Algebra 1A; Math A; Basic Geometry; Informal Geometry; Practical Geometry	○	○
b. Formal/College prep mathematics level 1 courses *Example courses:* Algebra 1; Integrated Math 1; Unified Math I; Algebra 1 Part 2; Algebra 1B; Math B	○	○
c. Formal/College prep mathematics level 2 courses *Example courses:* Geometry; Plane Geometry; Solid Geometry; Integrated Math 2; Unified Math II; Math C	○	○
d. Formal/College prep mathematics level 3 courses *Example courses:* Algebra 2; Intermediate Algebra; Algebra and Trigonometry; Advanced Algebra; Integrated Math 3; Unified Math III	○	○
e. Formal/College prep mathematics level 4 courses *Example courses:* Algebra 3; Trigonometry; Pre-Calculus; Analytic/Advanced Geometry; Elementary Functions; Integrated Math 4, Unified Math IV; Calculus (not including college level/AP); any other College Prep Senior Math with Algebra 2 as a prerequisite	○	○
f. Mathematics courses that might qualify for college credit *Example courses:* Advanced Placement Calculus (AB, BC); Advanced Placement Statistics; IB Mathematics Standard Level; IB Mathematics Higher Level; concurrent college and high school credit/dual enrollment	○	○

11. Does this school offer one or more courses focused specifically on probability and/or statistics? (Include both courses that are offered every year and those offered in alternating years.)

○	Yes
○	No *[Skip to Q13]*

12. What probability and/or statistics courses does this school offer? [Select all that apply.]

□	Probability and Statistics combined
□	Probability
□	Statistics

13. Does your school offer each of the following types of mathematics courses that might qualify for college credit? (Include both courses that are offered every year and those offered in alternating years.) [Select one on each row.]

		YES	NO
a.	Advanced Placement (AP) mathematics courses	○	○
b.	International Baccalaureate (IB) mathematics courses	○	○
c.	Concurrent college and high school credit/dual enrollment mathematics courses	○	○

14. ***[Presented only to schools that selected "Yes" for Q13c]***
When are concurrent college and high school credit/dual enrollment mathematics courses offered?

○	Offered this school year
○	Not offered this school year, but offered in alternating years

15. Which of the following mathematics courses are available to students in this school, either on site, at other locations, or online? [Select one on each row.]

	AVAILABLE?		*[IF AVAILABLE]* WHERE OFFERED		*[IF AVAILABLE]* WHEN OFFERED	
	YES	NO	AT THIS SCHOOL	ELSEWHERE (OFFSITE OR ONLINE)	THIS YEAR	NOT THIS YEAR, BUT IN ALTERNATING YEARS
a. ***[Skip if Q13a was "No"]*** AP Calculus AB	○	○	○	○	○	○
b. ***[Skip if Q13a was "No"]*** AP Calculus BC	○	○	○	○	○	○
c. ***[Skip if Q13a was "No"]*** AP Statistics	○	○	○	○	○	○
d. ***[Skip if Q13b was "No"]*** IB Mathematical Studies Standard Level	○	○	○	○	○	○
e. ***[Skip if Q13b was "No"]*** IB Mathematics Standard Level	○	○	○	○	○	○
f. ***[Skip if Q13b was "No"]*** IB Mathematics Higher Level	○	○	○	○	○	○
g. ***[Skip if Q13b was "No"]*** IB Further Mathematics Standard Level	○	○	○	○	○	○

Mathematics Requirements

16. ***[Presented only to schools that include grade 12]***
In order to graduate from this high school, how many years of grades 9–12 mathematics are students required to take?

1 YEAR	2 YEARS	3 YEARS	4 YEARS
○	○	○	○

Influences on Mathematics Instruction

17. For this school, how much money was spent on each of the following during the most recently completed budget year? (If you don't know the exact amounts, please provide your best estimates.) [Enter each response as a whole dollar amount without special characters such as dollar signs (for example: 1500).]

a.	Consumable supplies for mathematics instruction (for example: graph paper)	
b.	Non-consumable items for mathematics instruction such as calculators, protractors, manipulatives, etc. (Do not include computers)	
c.	Software specific to mathematics instruction (for example: dynamic geometry software)	

18. Which of the following best describes how the mathematics instructional materials used in your school are selected? [Select one.]

○	At the district/diocese level (for example: by a mathematics supervisor or district/diocese -wide committee) ***[Not presented to non-Catholic private schools]***
○	At the school level (for example: by the principal, department chair, or teacher committee/grade-level team)
○	By individual teachers

19. Please rate the effect of each of the following on the quality of mathematics instruction in your school. [Select one on each row.]

		INHIBITS EFFECTIVE INSTRUCTION		NEUTRAL OR MIXED		PROMOTES EFFECTIVE INSTRUCTION
a.	The school/district/diocese mathematics professional development policies and practices	①	②	③	④	⑤
b.	The amount of time provided by the school/district/diocese for teacher professional development in mathematics	①	②	③	④	⑤
c.	The importance that the school places on mathematics	①	②	③	④	⑤
d.	Other school and/or district/diocese initiatives	①	②	③	④	⑤
e.	The amount of time provided by the school/district/diocese for teachers to share ideas about mathematics instruction	①	②	③	④	⑤
f.	How mathematics instructional resources are managed (for example: distributing and replacing materials)	①	②	③	④	⑤

20. In your opinion, how great a problem is each of the following for mathematics instruction **in your school as a whole**? [Select one on each row.]

	NOT A SIGNIFICANT PROBLEM	SOMEWHAT OF A PROBLEM	SERIOUS PROBLEM
a. Lack of equipment and supplies and/or manipulatives for teaching mathematics (for example: materials for students to draw, cut and build in order to make sense of problems)	①	②	③
b. Inadequate funds for purchasing mathematics equipment and supplies	①	②	③
c. Lack of mathematics textbooks	①	②	③
d. Poor quality mathematics textbooks	①	②	③
e. Inadequate materials for differentiating mathematics instruction	①	②	③
f. Low student interest in mathematics	①	②	③
g. Low student prior knowledge and skills	①	②	③
h. Lack of teacher interest in mathematics	①	②	③
i. Inadequate teacher preparation to teach mathematics	①	②	③
j. High teacher turnover	①	②	③
k. Insufficient instructional time to teach mathematics	①	②	③
l. Inadequate mathematics-related professional development opportunities	①	②	③
m. Large class sizes	①	②	③
n. High student absenteeism	①	②	③
o. Inappropriate student behavior	①	②	③
p. Lack of parent/guardian support and involvement	①	②	③
q. Community attitudes toward mathematics instruction	①	②	③

Mathematics Professional Development Opportunities

21. **In the last 3 years,** has your school and/or district/diocese offered **workshops** specifically focused on mathematics or mathematics teaching, possibly in conjunction with other organizations (for example: other schools/districts/dioceses, colleges or universities, museums, professional associations, commercial vendors)?

○	Yes
○	No *[Skip to Q23]*

22. Please indicate the extent to which **workshops** offered by your school and/or district/diocese **in the last 3 years** emphasized each of the following: [Select one on each row.]

	NOT AT ALL		SOMEWHAT		TO A GREAT EXTENT
a. Deepening teachers' understanding of mathematics concepts	①	②	③	④	⑤
b. Deepening teachers' understanding of how mathematics is done (for example: considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	①	②	③	④	⑤
c. Deepening teachers' understanding of the state mathematics standards	①	②	③	④	⑤
d. Deepening teachers' understanding of how students think about various mathematical ideas	①	②	③	④	⑤
e. How to use particular mathematics instructional materials (for example: textbooks)	①	②	③	④	⑤
f. How to monitor student understanding during mathematics instruction	①	②	③	④	⑤
g. How to adapt mathematics instruction to address student misconceptions	①	②	③	④	⑤
h. How to use technology in mathematics instruction	①	②	③	④	⑤
i. How to use investigation-oriented tasks in mathematics instruction	①	②	③	④	⑤
j. How to develop students' confidence that they can successfully pursue careers in mathematics	①	②	③	④	⑤
k. How to incorporate real-world issues (for example: current events, community concerns) into mathematics instruction	①	②	③	④	⑤
l. How to connect instruction to mathematics career opportunities	①	②	③	④	⑤
m. How to integrate science, engineering, mathematics, and/or computer science	①	②	③	④	⑤
n. How to engage students in doing mathematics (for example: considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	①	②	③	④	⑤
o. How to incorporate students' cultural backgrounds into mathematics instruction	①	②	③	④	⑤
p. How to differentiate mathematics instruction to meet the needs of diverse learners	①	②	③	④	⑤

23. **In the last 3 years,** has your school offered **teacher study groups** where teachers meet on a regular basis to discuss teaching and learning of mathematics, and possibly other content areas as well (sometimes referred to as Professional Learning Communities, PLCs, or lesson study)?

○	Yes
○	No *[Skip to Q35]*

24. ***[Presented only to schools that include any grades K–5]***
Typically, are teachers of grades K–5 mathematics required to participate in these mathematics-focused **teacher study groups**?

○	Yes, all teachers of grades K–5 mathematics
○	Yes, but only mathematics/STEM specialists
○	No

25. ***[Presented only to schools that include any grades 6–8]***
Typically, are teachers of grades 6–8 mathematics classes required to participate in these mathematics-focused **teacher study groups**?

○	Yes
○	No

26. ***[Presented only to schools that include any grades 9–12]***
Typically, are teachers of grades 9–12 mathematics classes required to participate in these mathematics-focused **teacher study groups**?

○	Yes
○	No

27. Has your school specified a schedule for when these mathematics-focused **teacher study groups** are expected to meet?

○	Yes
○	No *[Skip to Q30]*

28. Over what period of time have these mathematics-focused **teacher study groups** typically been expected to meet?

○	The entire school year
○	One semester
○	Less than one semester

29. How often have these mathematics-focused **teacher study groups** typically been expected to meet?

○	Less than once a month
○	Once a month
○	Twice a month
○	More than twice a month

30. Which of the following describe the typical mathematics-focused **teacher study groups** in this school? [Select all that apply.]

□	Organized by grade level
□	Include teachers from multiple grade levels
□	Include teachers who teach different mathematics subjects
□	Include parents/guardians or other community members
□	Include higher education faculty or other "consultants"
□	Include school and/or district/diocese administrators
□	Limited to teachers from this school
□	Include teachers from other schools in the district/diocese *[Not presented to non-Catholic private schools]*
□	Include teachers from other schools outside of your district/diocese

31. Which of the following describe the typical mathematics-focused **teacher study groups** in this school? [Select all that apply.]

□	Teachers engage in mathematics investigations.
□	Teachers analyze student mathematics assessment results.
□	Teachers analyze mathematics instructional materials (for example: textbooks).
□	Teachers plan mathematics lessons together.
□	Teachers rehearse instructional practices (meaning: try out, receive feedback, and reflect on those practices).
□	Teachers observe each other's mathematics instruction (either in-person or through video recording).
□	Teachers provide feedback on each other's mathematics instruction.
□	Teachers examine classroom artifacts (for example: student work samples, videos of classroom instruction).

32. To what extent have these mathematics-focused **teacher study groups** emphasized each of the following? [Select one on each row.]

	NOT AT ALL		SOMEWHAT		TO A GREAT EXTENT
a. Deepening teachers' understanding of mathematics concepts	①	②	③	④	⑤
b. Deepening teachers' understanding of how mathematics is done (for example: considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	①	②	③	④	⑤
c. Deepening teachers' understanding of the state mathematics standards	①	②	③	④	⑤
d. Deepening teachers' understanding of how students think about various mathematical ideas	①	②	③	④	⑤
e. How to use particular mathematics instructional materials (for example: textbooks)	①	②	③	④	⑤
f. How to monitor student understanding during mathematics instruction	①	②	③	④	⑤
g. How to adapt mathematics instruction to address student misconceptions	①	②	③	④	⑤
h. How to use technology in mathematics instruction	①	②	③	④	⑤
i. How to use investigation-oriented tasks in mathematics instruction	①	②	③	④	⑤
j. How to develop students' confidence that they can successfully pursue careers in mathematics	①	②	③	④	⑤
k. How to incorporate real-world issues (for example: current events, community concerns) into mathematics instruction	①	②	③	④	⑤
l. How to connect instruction to mathematics career opportunities	①	②	③	④	⑤
m. How to integrate science, engineering, mathematics, and/or computer science	①	②	③	④	⑤
n. How to engage students in doing mathematics (for example: considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	①	②	③	④	⑤
o. How to incorporate students' cultural backgrounds into mathematics instruction	①	②	③	④	⑤
p. How to differentiate mathematics instruction to meet the needs of diverse learners	①	②	③	④	⑤

33. Have there been designated leaders for these mathematics-focused **teacher study groups**?

○	Yes
○	No *[Skip to Q35]*

34. The designated leaders of these mathematics-focused **teacher study groups** were from: [Select all that apply.]

□	This school
□	Elsewhere in this district/diocese *[Not presented to non-Catholic private schools]*
□	College/University
□	External consultants
□	Other (please specify: _____)

35. Thinking about last school year, which of the following were used to provide teachers in this school with time for professional development workshops/teacher study groups that included a focus on mathematics and/or mathematics teaching, regardless of whether they were offered by your school and/or district/diocese? [Select all that apply.]

□	Early dismissal and/or late start for students
□	Professional days/teacher work days during the students' school year
□	Professional days/teacher work days before and/or after the students' school year
□	Common planning time for teachers
□	Substitute teachers to cover teachers' classes while they attend professional development
□	None of the above

36. Do any teachers in your school have access to **one-on-one coaching** focused on improving their mathematics instruction (include voluntary and required coaching)?

○	Yes
○	No *[Skip to Q39]*

37. This school year, how many teachers in this school have received one-on-one coaching focused on improving their mathematics instruction (include voluntary and required coaching)? [Enter response as a whole number (for example: 15)] _____

38. To what extent is one-on-one coaching focused on improving mathematics instruction provided by each of the following? [Select one on each row.]

		NOT AT ALL		SOMEWHAT		TO A GREAT EXTENT
a.	The principal of your school	①	②	③	④	⑤
b.	An assistant principal at your school	①	②	③	④	⑤
c.	District/Diocese administrators including mathematics supervisors/ coordinators *[Not presented to non-Catholic private schools]*	①	②	③	④	⑤
d.	Teachers/coaches who do not have classroom teaching responsibilities	①	②	③	④	⑤
e.	Teachers/coaches who have part-time classroom teaching responsibilities	①	②	③	④	⑤
f.	Teachers/coaches who have full-time classroom teaching responsibilities	①	②	③	④	⑤

39. Which of the following are provided to teachers considered in need of special assistance in mathematics teaching? [Select all that apply.]

□	Seminars, classes, and/or study groups
□	Guidance from a formally designated mentor or coach
□	A higher level of supervision than for other teachers
□	None of the above

Thank you!

Mathematics Program Questionnaire Tables

Table MPQ 1
Titles of Mathematics Program Questionnaire Representatives, by Grade Range

	PERCENT OF REPRESENTATIVES		
	ELEMENTARY	MIDDLE	HIGH
Mathematics department chair	9 (1.5)	27 (2.4)	53 (3.4)
Mathematics lead teacher	23 (2.7)	27 (2.8)	23 (2.8)
Mathematics/STEM specialist	6 (1.7)	4 (1.2)	5 (1.6)
Regular classroom teacher	53 (3.3)	61 (3.6)	67 (2.8)
Principal	15 (2.2)	12 (2.5)	7 (1.9)
Assistant principal	4 (1.5)	5 (2.1)	1 (0.5)
Other	14 (1.8)	11 (1.9)	11 (2.3)

Table MPQ 2
Use of Various Instructional Arrangements in Elementary Schools

	PERCENT OF SCHOOLS†
Students in self-contained classes receive mathematics instruction from a district/diocese/school mathematics specialist *instead of* their regular teacher.	8 (1.7)
Students in self-contained classes receive mathematics instruction from a district/diocese/school mathematics specialist *in addition* to their regular teacher.	23 (2.4)
Students in self-contained classes pulled out for remedial instruction in mathematics	62 (3.0)
Students in self-contained classes pulled out for enrichment in mathematics	36 (2.8)
Students in self-contained classes pulled out from mathematics instruction for additional instruction in other content areas	25 (2.5)

† Includes only elementary schools that contain self-contained teachers.

Table MPQ 3
Mathematics Programs and Practices Currently Being Implemented in High Schools

	PERCENT OF SCHOOLS
Algebra 1 course, or its equivalent, offered over two years or as two separate block courses (e.g., Algebra A and Algebra B, or Integrated Math A and Integrated Math B).	44 (3.0)
Calculus courses (beyond pre-Calculus) offered this school year or in alternating years, on or off site.	76 (3.8)
Students can go to a Career and Technical Education (CTE) Center for mathematics instruction.	23 (2.3)
This school provides students access to virtual mathematics courses offered by other schools/institutions (e.g., online, videoconference).	59 (3.2)
This school provides its own mathematics courses virtually (e.g., online, videoconference).	15 (2.5)
Students can go to another K–12 school for mathematics courses.	11 (1.7)
Students can go to a college or university for mathematics courses.	68 (3.1)

Table MPQ 4
School Programs and Practices to Enhance Students' Interest and/or Achievement in Mathematics, by Grade Range

	PERCENT OF SCHOOLS		
	ELEMENTARY	MIDDLE	HIGH
Holds family math nights	38 (2.8)	21 (2.6)	6 (1.2)
Offers after-school help in mathematics (e.g., tutoring)	67 (2.7)	79 (2.9)	85 (2.9)
Offers formal after-school programs for enrichment in mathematics	27 (2.8)	35 (3.1)	18 (1.8)
Offers one or more mathematics clubs	20 (2.3)	29 (2.9)	36 (2.6)
Participates in a local or regional mathematics fair	16 (2.4)	19 (2.6)	19 (1.9)
Has one or more teams participating in mathematics competitions (e.g., Math Counts)	27 (2.5)	37 (3.1)	43 (3.0)
Encourages students to participate in mathematics summer programs or camps (e.g., offered by community colleges, universities, museums or mathematics centers)	47 (2.9)	49 (2.9)	51 (3.1)
Coordinates visits to business, industry, and/or research sites related to mathematics	17 (2.2)	14 (2.4)	19 (2.4)
Coordinates meetings with adult mentors who work in mathematics fields	14 (2.0)	15 (2.2)	13 (2.0)
Coordinates internships in mathematics fields	n/a	n/a	6 (1.2)

Table MPQ 5.1
Opinions About Various Statements Regarding State Mathematics Standards in Elementary Schools

	PERCENT OF SCHOOLS				
	STRONGLY DISAGREE	DISAGREE	NO OPINION	AGREE	STRONGLY AGREE
State mathematics standards have been thoroughly discussed by mathematics teachers in this school.	2 (0.6)	8 (1.9)	4 (1.5)	35 (2.7)	52 (2.7)
There is a school-wide effort to align mathematics instruction with the state mathematics standards.	3 (1.1)	5 (1.3)	2 (0.7)	31 (2.8)	59 (3.1)
Most mathematics teachers in this school teach to the state standards.	2 (1.0)	2 (1.0)	2 (0.7)	38 (3.2)	55 (3.0)
The school/district/diocese organizes mathematics professional development based on state standards.	4 (1.1)	14 (2.1)	9 (1.8)	32 (2.5)	42 (2.6)

Table MPQ 5.2
Opinions About Various Statements Regarding State Mathematics Standards in Middle Schools

	PERCENT OF SCHOOLS				
	STRONGLY DISAGREE	DISAGREE	NO OPINION	AGREE	STRONGLY AGREE
State mathematics standards have been thoroughly discussed by mathematics teachers in this school.	1 (0.5)	6 (2.0)	5 (2.0)	33 (2.9)	55 (3.1)
There is a school-wide effort to align mathematics instruction with the state mathematics standards.	2 (1.3)	4 (1.4)	3 (1.0)	30 (2.9)	61 (3.5)
Most mathematics teachers in this school teach to the state standards.	2 (1.4)	2 (0.8)	2 (0.8)	40 (3.7)	53 (3.4)
The school/district/diocese organizes mathematics professional development based on state standards.	6 (1.7)	15 (2.5)	12 (2.6)	33 (3.3)	34 (3.1)

Table MPQ 5.3
Opinions About Various Statements Regarding State Mathematics Standards in High Schools

	PERCENT OF SCHOOLS				
	STRONGLY DISAGREE	DISAGREE	NO OPINION	AGREE	STRONGLY AGREE
State mathematics standards have been thoroughly discussed by mathematics teachers in this school.	4 (1.5)	7 (1.6)	6 (1.9)	36 (2.9)	47 (3.0)
There is a school-wide effort to align mathematics instruction with the state mathematics standards.	4 (1.3)	4 (0.9)	5 (1.6)	36 (2.7)	50 (2.9)
Most mathematics teachers in this school teach to the state standards.	4 (1.5)	5 (1.4)	5 (1.5)	41 (3.3)	46 (3.3)
The school/district /diocese organizes mathematics professional development based on state standards.	9 (2.1)	19 (2.7)	19 (3.2)	30 (2.9)	22 (2.1)

Table MPQ 6 and 7
Average Percentage of 8th Grade Students Completing Algebra 1 or Geometry Prior to 9th Grade

	AVERAGE PERCENT OF STUDENTS
8th grade students that will have completed Algebra 1 prior to 9th grade	33 (2.6)
8th grade students that will have completed Geometry prior to 9th grade	8 (2.3)

Table MPQ 8
Average Percentage of High School Students Not Taking a Mathematics Course During the School Year

	AVERAGE PERCENT OF STUDENTS
Students not taking a mathematics course during the school year	6 (0.6)

Table MPQ 9

Type of High School Mathematics Courses Offered

	PERCENT OF SCHOOLS
Single-subject mathematics courses (e.g., Algebra, Geometry)	98 (0.7)
Integrated mathematics courses	20 (2.2)

Table MPQ 10

High School Mathematics Courses Offered

	PERCENT OF SCHOOLS
Non-college prep mathematics courses	79 (2.8)
Formal/College prep mathematics level 1 courses	98 (1.0)
Formal/College prep mathematics level 2 courses	93 (1.9)
Formal/College prep mathematics level 3 courses	91 (2.2)
Formal/College prep mathematics level 4 courses	90 (2.5)
Mathematics courses that might qualify for college credit	72 (3.5)

Table MPQ 11 and 12

High Schools Offering Various Probability and Statistics Courses

	PERCENT OF SCHOOLS†
Any Probability and/or Statistics	52 (3.2)
Probability and Statistics combined	28 (2.5)
Probability	2 (0.7)
Statistics	28 (2.8)

† Schools indicating in Q12 that they do not offer probability and/or statistics classes are treated as not offering each of the specific courses.

Table MPQ 13

High Schools Offering Mathematics Courses That Might Qualify for College Credit

	PERCENT OF SCHOOLS
Advanced Placement (AP) mathematics courses	54 (3.3)
International Baccalaureate (IB) mathematics courses	4 (0.8)
Concurrent college and high school credit/dual enrollment mathematics courses	67 (3.0)

Table MPQ 14

When High Schools Offer Concurrent College and High School Credit/Dual Enrollment Mathematics Courses

	PERCENT OF SCHOOLS†
Offered this school year	100 (0.0)
Not offered this school year, but offered in alternating years	0 ---‡

† Includes only schools indicating in Q13 that they offer concurrent college and high school credit/dual enrollment mathematics courses.

‡ No high schools in the sample selected this response option. Thus, it is not possible to calculate the standard error of this estimate.

Table MPQ 15
Where and When High Schools Offer Various Advanced Placement and International Baccalaureate Mathematics Courses

	PERCENT OF SCHOOLS					
	AVAILABLE?		WHERE OFFERED†		WHEN OFFERED†	
	Yes	No	At this school	Elsewhere (offsite or online)	This year	Not this year, but in alternating years
AP Calculus AB	53 (3.2)	47 (3.2)	93 (2.0)	7 (2.0)	95 (2.4)	5 (2.4)
AP Calculus BC	30 (2.4)	70 (2.4)	79 (3.8)	21 (3.8)	93 (2.6)	7 (2.6)
AP Statistics	34 (2.8)	66 (2.8)	95 (2.4)	5 (2.4)	87 (3.7)	13 (3.7)
IB Mathematical Studies Standard Level	3 (0.7)	97 (0.7)	87 (6.8)	13 (6.8)	97 (2.6)	3 (2.6)
IB Mathematics Standard Level	3 (0.6)	97 (0.6)	89 (6.9)	11 (6.9)	94 (6.5)	6 (6.5)
IB Mathematics Higher Level	3 (0.6)	97 (0.6)	91 (5.4)	9 (5.4)	100 (0.0)	0 ---‡
IB Further Mathematics Standard Level	1 (0.2)	99 (0.2)	71 (18.0)	29 (18.0)	92 (7.5)	8 (7.5)

† Includes only schools indicating AP and/or IB course availability.

‡ No high schools in the sample selected this response option. Thus, it is not possible to calculate the standard error of this estimate.

Table MPQ 16
High School Mathematics Graduation Requirements

	PERCENT OF SCHOOLS†
1 year	0 (0.5)
2 years	4 (1.2)
3 years	44 (3.1)
4 years	52 (3.2)

† Includes only schools that contain grade 12.

Table MPQ 17
Median Amount Schools Spent Per Pupil on Consumable Supplies, Non-Consumable Items, and Software for Mathematics, by Grade Range

	MEDIAN AMOUNT		
	ELEMENTARY	MIDDLE	HIGH
Consumable supplies for mathematics instruction (e.g., graph paper)	$1.46 (0.2)	$0.97 (0.2)	$0.56 (0.1)
Non-consumable items for mathematics instruction such as calculators, protractors, manipulatives, etc.	$0.92 (0.2)	$0.80 (0.1)	$0.93 (0.2)
Software specific to mathematics instruction (e.g., dynamic geometry software)	$0.05 (0.4)†	$0.00 ---‡	$0.09 (0.2)†

† Standard errors for medians are typically computed in Wesvar 5.1 using the Woodruff method. Wesvar was unable to compute a standard error for this estimate using this method; thus, the potentially less-consistent replication standard error is reported.

‡ It was not possible to compute a standard error using either the Woodruff or the replication methods.

Table MPQ 18
How Mathematics Instructional Materials Are Selected, by Grade Range

	PERCENT OF SCHOOLS		
	ELEMENTARY	MIDDLE	HIGH
At the district/diocese level (e.g., by a mathematics supervisor or district/diocese-wide committee)†	47 (2.4)	35 (3.6)	13 (1.7)
At the school level (e.g., by the principal, department chair, or teacher committee/grade-level team)	30 (2.8)	36 (3.1)	40 (3.4)
By individual teachers	22 (2.4)	29 (2.7)	47 (3.6)

† This item was presented only to public and Catholic schools.

Table MPQ 19.1
Effect of Various Factors on Mathematics Instruction in Elementary Schools

	PERCENT OF SCHOOLS				
	INHIBITS EFFECTIVE INSTRUCTION		NEUTRAL OR MIXED		PROMOTES EFFECTIVE INSTRUCTION
	1	2	3	4	5
The school/district/diocese mathematics professional development policies and practices	2 (0.9)	4 (1.2)	28 (2.7)	30 (2.7)	37 (3.4)
The amount of time provided by the school/district/diocese for teacher professional development in mathematics	5 (1.0)	11 (1.8)	30 (2.8)	29 (3.0)	25 (2.8)
The importance that the school places on mathematics	3 (0.9)	4 (1.1)	13 (2.2)	38 (3.1)	42 (3.4)
Other school and/or district and/or diocese initiatives	3 (0.9)	6 (1.4)	41 (2.9)	30 (2.6)	19 (2.4)
The amount of time provided by the school/district/diocese for teachers to share ideas about mathematics instruction	6 (1.5)	13 (1.7)	28 (2.8)	31 (2.7)	21 (2.7)
How mathematics instructional resources are managed (e.g., distributing and replacing materials)	5 (1.3)	8 (1.6)	27 (2.6)	33 (2.9)	28 (2.9)

Table MPQ 19.2
Effect of Various Factors on Mathematics Instruction in Middle Schools

	PERCENT OF SCHOOLS				
	INHIBITS EFFECTIVE INSTRUCTION		NEUTRAL OR MIXED		PROMOTES EFFECTIVE INSTRUCTION
	1	2	3	4	5
The school/district/diocese mathematics professional development policies and practices	4 (1.2)	4 (1.2)	28 (3.0)	31 (2.9)	33 (3.1)
The amount of time provided by the school/district/diocese for teacher professional development in mathematics	6 (1.5)	15 (2.5)	29 (2.8)	30 (3.4)	20 (2.4)
The importance that the school places on mathematics	2 (1.0)	3 (0.8)	13 (2.1)	40 (3.3)	42 (3.3)
Other school and/or district and/or diocese initiatives	4 (1.2)	5 (1.2)	51 (3.6)	26 (3.4)	15 (2.4)
The amount of time provided by the school/district/diocese for teachers to share ideas about mathematics instruction	8 (2.2)	14 (1.9)	30 (3.2)	35 (2.9)	14 (2.1)
How mathematics instructional resources are managed (e.g., distributing and replacing materials)	7 (1.9)	8 (1.9)	32 (2.7)	32 (2.6)	21 (2.6)

Table MPQ 19.3
Effect of Various Factors on Mathematics Instruction in High Schools

	PERCENT OF SCHOOLS				
	INHIBITS EFFECTIVE INSTRUCTION		NEUTRAL OR MIXED		PROMOTES EFFECTIVE INSTRUCTION
	1	2	3	4	5
The school/district/diocese mathematics professional development policies and practices	4 (1.4)	5 (1.5)	36 (2.8)	29 (3.0)	26 (2.6)
The amount of time provided by the school/district/diocese for teacher professional development in mathematics	6 (1.7)	15 (2.6)	36 (3.4)	28 (2.3)	15 (2.2)
The importance that the school places on mathematics	3 (0.7)	6 (1.7)	19 (2.4)	41 (3.3)	32 (2.8)
Other school and/or district and/or diocese initiatives	3 (0.9)	6 (1.2)	58 (2.8)	25 (2.4)	8 (1.4)
The amount of time provided by the school/district/diocese for teachers to share ideas about mathematics instruction	5 (1.7)	18 (2.5)	29 (3.0)	35 (3.1)	13 (1.8)
How mathematics instructional resources are managed (e.g., distributing and replacing materials)	4 (1.4)	9 (2.1)	31 (3.3)	39 (2.7)	18 (2.0)

Table MPQ 20.1

Mathematics Program Representatives' Opinions About the Extent to Which Various Factors Are Problematic for Mathematics Instruction in Elementary Schools

	PERCENT OF SCHOOLS		
	NOT A SIGNIFICANT PROBLEM	SOMEWHAT OF A PROBLEM	SERIOUS PROBLEM
Lack of equipment and supplies and/or manipulatives for teaching mathematics (e.g., materials for students to draw, cut, and build in order to make sense of problems)	74 (3.0)	23 (2.9)	3 (0.9)
Inadequate funds for purchasing mathematics equipment and supplies	65 (2.4)	28 (2.4)	7 (1.5)
Lack of mathematics textbooks	83 (2.3)	11 (2.1)	6 (1.1)
Poor quality mathematics textbooks	73 (2.5)	19 (2.4)	8 (1.4)
Inadequate materials for differentiating mathematics instruction	46 (3.0)	45 (2.9)	9 (1.5)
Low student interest in mathematics	44 (3.5)	45 (3.4)	11 (1.9)
Low student prior knowledge and skills	29 (2.8)	48 (2.8)	22 (2.4)
Lack of teacher interest in mathematics	75 (2.8)	23 (2.7)	2 (1.0)
Inadequate teacher preparation to teach mathematics	61 (3.2)	34 (3.0)	6 (1.4)
High teacher turnover	71 (2.8)	22 (2.2)	7 (1.6)
Insufficient instructional time to teach mathematics	64 (3.0)	31 (2.9)	4 (1.0)
Inadequate mathematics-related professional development opportunities	48 (3.0)	43 (2.9)	9 (1.6)
Large class sizes	65 (3.3)	24 (2.7)	12 (2.0)
High student absenteeism	56 (2.9)	36 (2.7)	8 (1.7)
Inappropriate student behavior	54 (2.8)	34 (2.7)	13 (1.9)
Lack of parent/guardian support and involvement	40 (3.0)	42 (3.1)	18 (2.2)
Community attitudes toward mathematics instruction	63 (3.0)	29 (3.0)	8 (1.6)

Table MPQ 20.2

Mathematics Program Representatives' Opinions About the Extent to Which Various Factors Are Problematic for Mathematics Instruction in Middle Schools

	PERCENT OF SCHOOLS		
	NOT A SIGNIFICANT PROBLEM	SOMEWHAT OF A PROBLEM	SERIOUS PROBLEM
Lack of equipment and supplies and/or manipulatives for teaching mathematics (e.g., materials for students to draw, cut, and build in order to make sense of problems)	66 (3.5)	32 (3.4)	2 (1.0)
Inadequate funds for purchasing mathematics equipment and supplies	57 (3.5)	36 (3.1)	7 (1.8)
Lack of mathematics textbooks	81 (2.7)	13 (2.4)	6 (1.3)
Poor quality mathematics textbooks	72 (2.7)	19 (2.1)	9 (2.0)
Inadequate materials for differentiating mathematics instruction	47 (3.0)	45 (3.1)	8 (1.7)
Low student interest in mathematics	33 (3.9)	46 (3.3)	21 (2.4)
Low student prior knowledge and skills	23 (3.0)	43 (2.9)	34 (2.6)
Lack of teacher interest in mathematics	81 (2.7)	17 (2.6)	2 (0.9)
Inadequate teacher preparation to teach mathematics	71 (3.2)	25 (2.8)	4 (1.4)
High teacher turnover	66 (3.1)	24 (2.9)	10 (1.8)
Insufficient instructional time to teach mathematics	64 (3.0)	30 (2.8)	6 (1.5)
Inadequate mathematics-related professional development opportunities	49 (3.5)	43 (3.0)	7 (1.7)
Large class sizes	62 (2.9)	26 (2.5)	12 (1.7)
High student absenteeism	49 (3.4)	38 (3.1)	13 (1.8)
Inappropriate student behavior	49 (3.1)	36 (3.1)	15 (1.9)
Lack of parent/guardian support and involvement	37 (3.7)	43 (3.7)	20 (2.3)
Community attitudes toward mathematics instruction	57 (3.4)	33 (3.4)	9 (1.7)

Table MPQ 20.3
Mathematics Program Representatives' Opinions About the Extent to Which Various Factors Are Problematic for Mathematics Instruction in High Schools

	PERCENT OF SCHOOLS		
	NOT A SIGNIFICANT PROBLEM	SOMEWHAT OF A PROBLEM	SERIOUS PROBLEM
Lack of equipment and supplies and/or manipulatives for teaching mathematics (e.g., materials for students to draw, cut, and build in order to make sense of problems)	61 (3.5)	36 (3.7)	3 (1.1)
Inadequate funds for purchasing mathematics equipment and supplies	55 (3.2)	38 (3.6)	7 (1.5)
Lack of mathematics textbooks	71 (3.0)	20 (2.6)	9 (1.7)
Poor quality mathematics textbooks	60 (3.2)	25 (2.7)	14 (2.5)
Inadequate materials for differentiating mathematics instruction	50 (2.8)	42 (3.1)	8 (1.6)
Low student interest in mathematics	18 (2.2)	54 (3.2)	29 (2.9)
Low student prior knowledge and skills	13 (1.5)	49 (2.9)	37 (3.0)
Lack of teacher interest in mathematics	85 (2.4)	13 (2.2)	2 (0.8)
Inadequate teacher preparation to teach mathematics	81 (2.6)	16 (2.4)	3 (1.0)
High teacher turnover	62 (3.1)	28 (3.3)	10 (1.9)
Insufficient instructional time to teach mathematics	56 (3.3)	35 (3.3)	9 (1.7)
Inadequate mathematics-related professional development opportunities	47 (3.1)	43 (3.2)	10 (2.0)
Large class sizes	59 (3.2)	31 (3.0)	10 (1.5)
High student absenteeism	41 (3.0)	37 (3.3)	21 (2.5)
Inappropriate student behavior	54 (2.9)	34 (3.1)	13 (2.2)
Lack of parent/guardian support and involvement	33 (2.8)	46 (3.0)	20 (2.6)
Community attitudes toward mathematics instruction	51 (3.3)	37 (3.1)	11 (2.0)

Table MPQ 21
Mathematics-Focused Professional Development Workshops Offered by School/District in the Last Three Years

	PERCENT OF SCHOOLS
Elementary	69 (2.7)
Middle	61 (3.3)
High	46 (3.1)

Table MPQ 22.1

Elementary Schools With Locally Offered Mathematics Professional Development Workshops in the Last Three Years With an Emphasis in Each of a Number of Areas

	PERCENT OF SCHOOLS†				
	NOT AT ALL		SOMEWHAT		TO A GREAT EXTENT
	1	2	3	4	5
Deepening teachers' understanding of mathematics concepts	4 (1.8)	2 (1.0)	29 (3.1)	36 (3.5)	29 (3.1)
Deepening teachers' understanding of how mathematics is done (e.g., considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	5 (2.0)	3 (1.2)	26 (3.2)	38 (3.6)	29 (3.3)
Deepening teachers' understanding of the state mathematics standards	3 (1.6)	5 (1.9)	24 (3.4)	34 (3.6)	33 (3.2)
Deepening teachers' understanding of how students think about various mathematical ideas	2 (1.4)	7 (2.1)	30 (3.8)	37 (3.5)	24 (3.1)
How to use particular mathematics instructional materials (e.g., textbooks)	4 (1.6)	12 (2.2)	31 (3.3)	29 (3.2)	24 (3.1)
How to monitor student understanding during mathematics instruction	4 (1.7)	11 (2.2)	32 (3.5)	33 (3.7)	20 (2.9)
How to adapt mathematics instruction to address student misconceptions	5 (1.8)	13 (2.1)	38 (3.4)	27 (2.9)	18 (2.7)
How to use technology in mathematics instruction	8 (2.0)	13 (2.3)	30 (3.2)	32 (3.3)	17 (2.7)
How to use investigation-oriented tasks in mathematics instruction	6 (1.8)	19 (3.2)	31 (3.5)	26 (3.1)	17 (2.5)
How to develop students' confidence that they can successfully pursue careers in mathematics	23 (3.3)	21 (3.0)	29 (3.5)	19 (3.0)	7 (1.7)
How to incorporate real-world issues (e.g., current events, community concerns) into mathematics instruction	13 (2.6)	17 (2.6)	36 (3.3)	23 (2.8)	12 (2.3)
How to connect instruction to mathematics career opportunities	21 (3.1)	30 (3.4)	27 (3.1)	15 (2.7)	6 (1.8)
How to integrate science, engineering, mathematics, and/or computer science	14 (2.7)	23 (3.2)	31 (3.6)	24 (3.3)	9 (2.1)
How to engage students in doing mathematics (e.g., considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	2 (1.4)	10 (2.0)	33 (3.3)	33 (3.4)	22 (3.4)
How to incorporate students' cultural backgrounds into mathematics instruction	32 (3.5)	27 (3.2)	27 (3.5)	10 (1.7)	4 (1.5)
How to differentiate mathematics instruction to meet the needs of diverse learners	4 (1.4)	12 (2.5)	38 (3.7)	30 (3.2)	16 (2.8)

† Includes only elementary schools indicating in Q21 that they and/or their district/diocese offered mathematics-focused workshops in the last three years.

Table MPQ 22.2

Middle Schools With Locally Offered Mathematics Professional Development Workshops in the Last Three Years With an Emphasis in Each of a Number of Areas

	PERCENT OF SCHOOLS†				
	NOT AT ALL		SOMEWHAT		TO A GREAT EXTENT
	1	2	3	4	5
Deepening teachers' understanding of mathematics concepts	5 (1.4)	3 (0.9)	33 (4.1)	32 (3.7)	27 (3.3)
Deepening teachers' understanding of how mathematics is done (e.g., considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	5 (1.6)	6 (1.6)	29 (4.2)	35 (4.3)	25 (3.1)
Deepening teachers' understanding of the state mathematics standards	4 (1.4)	9 (2.9)	23 (3.6)	29 (3.5)	35 (3.6)
Deepening teachers' understanding of how students think about various mathematical ideas	4 (1.5)	7 (1.9)	31 (4.0)	34 (4.1)	23 (3.6)
How to use particular mathematics instructional materials (e.g., textbooks)	8 (1.7)	11 (2.4)	24 (3.2)	31 (3.6)	27 (3.6)
How to monitor student understanding during mathematics instruction	4 (1.3)	14 (3.3)	29 (3.6)	31 (3.7)	21 (3.5)
How to adapt mathematics instruction to address student misconceptions	6 (1.5)	12 (2.6)	32 (3.7)	30 (4.0)	20 (3.3)
How to use technology in mathematics instruction	9 (2.3)	12 (2.9)	30 (3.5)	31 (3.9)	19 (3.4)
How to use investigation-oriented tasks in mathematics instruction	7 (1.7)	21 (3.5)	30 (3.6)	23 (3.7)	19 (2.9)
How to develop students' confidence that they can successfully pursue careers in mathematics	23 (3.2)	21 (3.2)	34 (4.1)	15 (2.9)	7 (2.2)
How to incorporate real-world issues (e.g., current events, community concerns) into mathematics instruction	15 (2.7)	16 (2.7)	37 (4.0)	19 (3.7)	13 (2.7)
How to connect instruction to mathematics career opportunities	21 (3.0)	28 (3.7)	30 (3.7)	13 (3.1)	8 (2.4)
How to integrate science, engineering, mathematics, and/or computer science	15 (2.7)	22 (3.5)	29 (3.9)	26 (4.2)	8 (2.3)
How to engage students in doing mathematics (e.g., considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	3 (0.9)	6 (1.4)	34 (3.7)	34 (3.7)	23 (3.7)
How to incorporate students' cultural backgrounds into mathematics instruction	33 (4.0)	32 (3.9)	26 (3.6)	5 (1.5)	4 (1.7)
How to differentiate mathematics instruction to meet the needs of diverse learners	7 (1.8)	11 (2.4)	37 (4.1)	30 (4.2)	16 (2.9)

† Includes only middle schools indicating in Q21 that they and/or their district/diocese offered mathematics-focused workshops in the last three years.

Table MPQ 22.3

High Schools With Locally Offered Mathematics Professional Development Workshops in the Last Three Years With an Emphasis in Each of a Number of Areas

	PERCENT OF SCHOOLS†				
	NOT AT ALL		SOMEWHAT		TO A GREAT EXTENT
	1	2	3	4	5
Deepening teachers' understanding of mathematics concepts	10 (2.5)	11 (3.0)	40 (5.1)	29 (4.4)	10 (2.2)
Deepening teachers' understanding of how mathematics is done (e.g., considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	6 (1.9)	12 (2.9)	39 (5.0)	31 (4.3)	13 (2.6)
Deepening teachers' understanding of the state mathematics standards	10 (2.7)	6 (1.5)	28 (4.7)	33 (3.7)	24 (3.9)
Deepening teachers' understanding of how students think about various mathematical ideas	7 (2.3)	19 (4.6)	37 (5.4)	26 (3.5)	11 (2.5)
How to use particular mathematics instructional materials (e.g., textbooks)	15 (3.0)	18 (3.0)	32 (4.3)	24 (3.9)	12 (2.4)
How to monitor student understanding during mathematics instruction	11 (2.3)	12 (2.7)	37 (4.4)	27 (4.1)	13 (3.0)
How to adapt mathematics instruction to address student misconceptions	9 (2.1)	18 (5.1)	40 (4.8)	24 (2.9)	8 (2.3)
How to use technology in mathematics instruction	7 (1.9)	10 (1.8)	29 (4.1)	35 (3.6)	18 (3.0)
How to use investigation-oriented tasks in mathematics instruction	8 (1.7)	19 (4.2)	42 (4.1)	19 (2.5)	12 (2.7)
How to develop students' confidence that they can successfully pursue careers in mathematics	30 (4.6)	19 (2.5)	29 (5.2)	18 (3.6)	4 (1.2)
How to incorporate real-world issues (e.g., current events, community concerns) into mathematics instruction	19 (3.2)	18 (2.9)	39 (4.8)	14 (2.5)	10 (3.1)
How to connect instruction to mathematics career opportunities	29 (3.9)	26 (3.6)	28 (4.4)	13 (3.0)	5 (1.6)
How to integrate science, engineering, mathematics, and/or computer science	21 (3.0)	25 (3.8)	28 (3.8)	22 (4.4)	4 (1.3)
How to engage students in doing mathematics (e.g., considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	5 (1.3)	13 (3.4)	41 (4.8)	28 (3.5)	13 (3.0)
How to incorporate students' cultural backgrounds into mathematics instruction	39 (4.3)	30 (4.4)	22 (3.1)	7 (1.8)	2 (0.8)
How to differentiate mathematics instruction to meet the needs of diverse learners	9 (2.5)	16 (3.6)	42 (5.2)	21 (3.0)	11 (2.9)

† Includes only high schools indicating in Q21 that they and/or their district/diocese offered mathematics-focused workshops in the last three years.

Table MPQ 23
Mathematics-Focused Teacher Study Groups Offered by School in the Last Three Years

	PERCENT OF SCHOOLS
Elementary	55 (3.2)
Middle	57 (3.3)
High	53 (2.8)

Table MPQ 24
Required Participation in Mathematics-Focused Teacher Study Groups in Elementary Schools

	PERCENT OF SCHOOLS†
All teachers of grades K–5 mathematics	76 (3.1)
Only mathematics/STEM specialists	6 (1.8)
No required participation	18 (3.0)

† Includes only elementary schools indicating in Q23 that they offered mathematics-focused teacher study groups in the last three years.

Table MPQ 25 and 26
Required Participation in Mathematics-Focused Teacher Study Groups in Secondary Schools

	PERCENT OF SCHOOLS†
Middle	83 (3.1)
High	77 (4.3)

† Includes only secondary schools indicating in Q23 that they offered mathematics-focused teacher study groups in the last three years.

Table MPQ 27
Schools With Specified Schedule for Mathematics-Focused Teacher Study Groups

	PERCENT OF SCHOOLS†
Elementary	77 (3.2)
Middle	74 (3.9)
High	82 (3.2)

† Includes only schools indicating in Q23 that they offered mathematics-focused teacher study groups in the last three years.

Table MPQ 28
Duration of Mathematics-Focused Teacher Study Groups, by Grade Range

	PERCENT OF SCHOOLS†		
	ELEMENTARY	MIDDLE	HIGH
The entire school year	89 (2.6)	95 (1.7)	93 (2.8)
One semester	8 (2.2)	3 (1.5)	4 (1.8)
Less than one semester	3 (1.8)	2 (0.9)	3 (1.4)

† Includes only schools indicating in Q23 that they offered mathematics-focused teacher study groups in the last three years and indicating in Q27 that they have a specified schedule for these teacher study groups.

Table MPQ 29

Frequency of Mathematics-Focused Teacher Study Groups, by Grade Range

	PERCENT OF SCHOOLS†		
	ELEMENTARY	MIDDLE	HIGH
Less than once a month	24 (3.9)	20 (4.6)	14 (2.8)
Once a month	29 (3.9)	26 (3.7)	35 (3.8)
Twice a month	18 (3.3)	16 (3.4)	21 (2.9)
More than twice a month	29 (4.1)	38 (4.0)	30 (3.6)

† Includes only schools indicating in Q23 that they offered mathematics-focused teacher study groups in the last three years and indicating in Q27 that they have a specified schedule for these teacher study groups.

Table MPQ 30

Composition of Mathematics-Focused Teacher Study Groups, by Grade Range

	PERCENT OF SCHOOLS†		
	ELEMENTARY	MIDDLE	HIGH
Organized by grade level	77 (3.1)	69 (3.5)	36 (3.4)
Include teachers from multiple grade levels	54 (3.2)	62 (3.8)	70 (4.4)
Include teachers who teach different mathematics subjects	24 (3.3)	47 (4.9)	72 (2.8)
Include parents/guardians or other community members	2 (0.9)	1 (1.1)	1 (0.5)
Include higher education faculty or other "consultants"	17 (3.0)	19 (3.1)	16 (4.0)
Include school and/or district/diocese administrators	61 (4.1)	56 (3.7)	38 (3.8)
Limited to teachers from this school	53 (4.3)	61 (4.7)	71 (4.5)
Include teachers from other schools in the district/diocese‡	27 (3.7)	23 (3.8)	14 (3.4)
Include teachers from other schools outside of your district/diocese	5 (1.9)	3 (2.0)	3 (1.8)

† Includes only schools indicating in Q23 that they offered mathematics-focused teacher study groups in the last three years.

‡ This item was presented only to public and Catholic schools.

Table MPQ 31
Description of Activities in Mathematics-Focused Teacher Study Groups, by Grade Range

	PERCENT OF SCHOOLS†		
	ELEMENTARY	MIDDLE	HIGH
Teachers engage in mathematics investigations	34 (3.7)	37 (4.5)	36 (4.5)
Teachers analyze student mathematics assessment results	81 (3.6)	79 (4.1)	76 (4.2)
Teachers analyze mathematics instructional materials (e.g., textbooks)	59 (4.4)	63 (4.4)	64 (4.0)
Teachers plan mathematics lessons together	59 (3.4)	63 (4.1)	63 (3.5)
Teachers rehearse instructional practices (i.e., try out, receive feedback, and reflect on those practices)	29 (3.7)	26 (3.8)	21 (2.8)
Teachers observe each other's mathematics instruction (either in-person or through video recording)	26 (3.9)	25 (3.5)	21 (2.8)
Teachers provide feedback on each other's mathematics instruction	31 (4.0)	31 (4.2)	26 (3.7)
Teachers examine classroom artifacts (e.g., student work samples, videos of classroom instruction)	45 (3.8)	37 (3.9)	32 (3.8)

† Includes only schools indicating in Q23 that they offered mathematics-focused teacher study groups in the last three years.

Table MPQ 32.1
Elementary School Mathematics-Focused Teacher Study Groups in the Last Three Years With an Emphasis in Each of a Number of Areas

	PERCENT OF SCHOOLS†				
	NOT AT ALL		SOMEWHAT		TO A GREAT EXTENT
	1	2	3	4	5
Deeping teachers' understanding of mathematics concepts	9 (2.2)	8 (2.4)	29 (4.0)	35 (4.3)	20 (3.2)
Deepening teachers' understanding of the how mathematics is done (e.g., considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	5 (1.6)	11 (3.1)	25 (3.6)	33 (3.7)	25 (3.2)
Deepening teachers' understanding of the state mathematics standards	6 (1.7)	11 (3.1)	19 (3.2)	30 (4.3)	33 (4.0)
Deepening teachers' understanding of how students think about various mathematical ideas	5 (1.7)	9 (2.4)	28 (3.4)	37 (3.9)	21 (3.4)
How to use particular mathematics instructional materials (e.g., textbooks)	6 (2.0)	13 (2.8)	29 (3.8)	35 (3.9)	17 (2.6)
How to monitor student understanding during mathematics instruction	5 (1.6)	11 (2.9)	28 (3.3)	42 (3.6)	15 (2.9)
How to adapt mathematics instruction to address student misconceptions	7 (1.9)	11 (2.5)	30 (3.6)	35 (3.8)	16 (3.1)
How to use technology in mathematics instruction	10 (2.2)	17 (2.4)	36 (4.0)	26 (3.8)	11 (2.3)
How to use investigation-oriented tasks in mathematics instruction	8 (1.9)	23 (3.3)	33 (3.4)	22 (3.7)	14 (2.2)
How to develop students' confidence that they can successfully pursue careers in mathematics	31 (3.9)	18 (2.8)	28 (3.9)	14 (2.9)	9 (2.4)
How to incorporate real-world issues (e.g., current events, community concerns) into mathematics instruction	14 (2.8)	17 (2.6)	32 (3.7)	27 (3.5)	11 (2.2)
How to connect instruction to mathematics career opportunities	29 (3.9)	25 (3.0)	24 (3.4)	15 (3.1)	7 (1.9)
How to integrate science, engineering, mathematics, and/or computer science	18 (3.0)	20 (3.3)	34 (4.0)	16 (3.2)	12 (2.5)
How to engage students in doing mathematics (e.g., considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	3 (1.3)	8 (2.1)	23 (3.6)	40 (4.1)	26 (3.7)
How to incorporate students' cultural backgrounds into mathematics instruction	32 (4.3)	28 (3.6)	22 (3.9)	11 (2.6)	7 (2.1)
How to differentiate mathematics instruction to meet the needs of diverse learners	3 (1.1)	9 (1.9)	32 (3.6)	32 (4.1)	24 (3.6)

† Includes only elementary schools indicating in Q23 that they offered mathematics-focused teacher study groups in the last three years.

Table MPQ 32.2
Middle School Mathematics-Focused Teacher Study Groups in the Last Three Years With an Emphasis in Each of a Number of Areas

	PERCENT OF SCHOOLS†				
	NOT AT ALL		SOMEWHAT		TO A GREAT EXTENT
	1	2	3	4	5
Deeping teachers' understanding of mathematics concepts	9 (2.5)	14 (3.3)	37 (3.8)	21 (3.2)	19 (3.2)
Deepening teachers' understanding of the how mathematics is done (e.g., considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	6 (1.4)	14 (3.8)	29 (4.0)	28 (4.2)	23 (3.5)
Deepening teachers' understanding of the state mathematics standards	5 (1.4)	12 (3.4)	23 (3.0)	26 (3.7)	35 (4.1)
Deepening teachers' understanding of how students think about various mathematical ideas	6 (1.8)	10 (2.5)	34 (4.0)	28 (3.6)	22 (3.6)
How to use particular mathematics instructional materials (e.g., textbooks)	3 (0.9)	15 (2.9)	32 (3.9)	31 (4.0)	19 (2.8)
How to monitor student understanding during mathematics instruction	4 (1.2)	13 (3.0)	30 (3.9)	33 (3.8)	20 (3.6)
How to adapt mathematics instruction to address student misconceptions	7 (1.9)	12 (3.0)	30 (3.7)	33 (3.3)	18 (3.2)
How to use technology in mathematics instruction	9 (2.9)	14 (2.3)	34 (3.5)	35 (4.4)	8 (1.8)
How to use investigation-oriented tasks in mathematics instruction	8 (1.9)	22 (3.6)	35 (3.8)	22 (3.7)	12 (2.7)
How to develop students' confidence that they can successfully pursue careers in mathematics	27 (3.9)	19 (2.9)	33 (4.0)	14 (3.0)	7 (2.0)
How to incorporate real-world issues (e.g., current events, community concerns) into mathematics instruction	12 (2.3)	20 (2.8)	31 (4.3)	28 (3.9)	9 (2.3)
How to connect instruction to mathematics career opportunities	26 (3.7)	22 (2.9)	32 (4.1)	16 (3.4)	5 (1.8)
How to integrate science, engineering, mathematics, and/or computer science	18 (3.0)	20 (3.1)	39 (4.1)	14 (2.6)	9 (2.8)
How to engage students in doing mathematics (e.g., considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	4 (1.2)	6 (1.4)	31 (4.2)	37 (4.1)	22 (3.1)
How to incorporate students' cultural backgrounds into mathematics instruction	31 (4.1)	24 (3.1)	31 (4.5)	10 (2.6)	4 (2.1)
How to differentiate mathematics instruction to meet the needs of diverse learners	3 (1.0)	11 (2.3)	35 (3.9)	29 (4.3)	23 (4.1)

† Includes only middle schools indicating in Q23 that they offered mathematics-focused teacher study groups in the last three years.

Table MPQ 32.3
High School Mathematics-Focused Teacher Study Groups in the Last Three Years With an Emphasis in Each of a Number of Areas

	PERCENT OF SCHOOLS†				
	NOT AT ALL		SOMEWHAT		TO A GREAT EXTENT
	1	2	3	4	5
Deeping teachers' understanding of mathematics concepts	15 (2.8)	22 (4.0)	38 (4.2)	20 (3.0)	6 (1.5)
Deepening teachers' understanding of the how mathematics is done (e.g., considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	11 (3.1)	10 (2.0)	43 (3.9)	27 (3.5)	9 (1.9)
Deepening teachers' understanding of the state mathematics standards	10 (2.4)	9 (2.3)	28 (4.0)	34 (3.6)	18 (2.6)
Deepening teachers' understanding of how students think about various mathematical ideas	11 (3.0)	12 (2.7)	37 (4.0)	31 (3.5)	8 (1.9)
How to use particular mathematics instructional materials (e.g., textbooks)	11 (2.7)	15 (3.0)	38 (4.2)	26 (3.1)	10 (2.1)
How to monitor student understanding during mathematics instruction	11 (3.2)	11 (2.0)	37 (4.2)	31 (3.7)	11 (2.4)
How to adapt mathematics instruction to address student misconceptions	9 (3.3)	15 (3.3)	30 (3.2)	34 (3.4)	12 (2.4)
How to use technology in mathematics instruction	4 (1.4)	20 (3.9)	31 (3.6)	32 (2.9)	13 (2.5)
How to use investigation-oriented tasks in mathematics instruction	15 (3.5)	22 (2.7)	32 (3.9)	21 (3.2)	10 (2.4)
How to develop students' confidence that they can successfully pursue careers in mathematics	29 (3.6)	25 (3.4)	28 (3.1)	14 (2.5)	4 (1.5)
How to incorporate real-world issues (e.g., current events, community concerns) into mathematics instruction	18 (2.7)	21 (3.6)	33 (3.6)	18 (2.5)	10 (2.4)
How to connect instruction to mathematics career opportunities	29 (3.4)	25 (3.6)	27 (3.1)	14 (3.0)	4 (1.5)
How to integrate science, engineering, mathematics, and/or computer science	26 (3.7)	24 (2.8)	29 (3.2)	16 (3.9)	5 (1.7)
How to engage students in doing mathematics (e.g., considering how to approach a problem, explaining and justifying solutions, creating and using mathematical models)	10 (2.5)	11 (2.0)	33 (3.5)	33 (3.5)	13 (2.4)
How to incorporate students' cultural backgrounds into mathematics instruction	35 (3.7)	30 (3.9)	21 (2.8)	9 (1.9)	5 (1.9)
How to differentiate mathematics instruction to meet the needs of diverse learners	8 (2.2)	11 (1.8)	40 (3.0)	29 (3.0)	13 (2.5)

† Includes only high schools indicating in Q23 that they offered mathematics-focused teacher study groups in the last three years.

Table MPQ 33
Use of Designated Leaders for Mathematics-Focused Teacher Study Groups

	PERCENT OF SCHOOLS†
Elementary	62 (3.7)
Middle	55 (3.9)
High	65 (3.9)

† Includes only schools indicating in Q23 that they offered mathematics-focused teacher study groups in the last three years.

Table MPQ 34
Origin of Designated Leaders of Mathematics-Focused Teacher Study Groups, by Grade Range

	PERCENT OF SCHOOLS†		
	ELEMENTARY	MIDDLE	HIGH
This school	52 (3.5)	48 (3.7)	57 (3.3)
Elsewhere in this district/diocese‡	24 (3.6)	16 (3.1)	8 (2.2)
College or University	1 (0.7)	0 ---§	0 ---§
External consultants	8 (2.3)	6 (2.0)	7 (3.3)
Other	4 (1.7)	3 (1.3)	3 (1.3)

† Includes only schools indicating in Q23 that they offered mathematics-focused teacher study groups in the last three years and indicating in Q33 that they have designated leaders for these teacher study groups.

‡ This item was presented only to public and Catholic schools.

§ No schools in the sample selected this response option. Thus, it is not possible to calculate the standard error of this estimate.

Table MPQ 35
How Schools Provide Time for Mathematics Professional Development, by Grade Range

	PERCENT OF SCHOOLS		
	ELEMENTARY	MIDDLE	HIGH
Early dismissal and/or late start for students	35 (2.9)	36 (3.3)	39 (3.0)
Professional days/teacher work days during the school year	70 (2.8)	69 (3.3)	67 (3.3)
Professional days/teacher work days before and/or after the school year	53 (3.0)	54 (3.0)	57 (3.1)
Common planning time for teachers	58 (2.8)	48 (3.2)	36 (3.2)
Substitute teachers to cover teachers' classes while they attend professional development	36 (3.0)	36 (3.2)	39 (3.1)
None of the above	8 (1.7)	11 (2.2)	10 (2.4)

Table MPQ 36
Schools Providing One-on-One Mathematics-Focused Coaching

	PERCENT OF SCHOOLS
Elementary	43 (2.8)
Middle	33 (2.6)
High	29 (2.8)

Table MPQ 37
Average Percentage of Teachers in Schools Receiving One-on-One Mathematics-Focused Coaching

	AVERAGE PERCENT OF TEACHERS
Elementary	43 (3.2)
Middle	49 (3.9)
High	43 (4.8)

† Includes only schools indicating in Q36 that teachers have access to one-on-one mathematics-focused coaching.

Table MPQ 38.1
Providers of One-on-One Mathematics-Focused Coaching in Elementary Schools

	PERCENT OF SCHOOLS†				
	NOT AT ALL		SOMEWHAT		TO A GREAT EXTENT
	1	2	3	4	5
The principal of your school	39 (4.8)	9 (2.5)	28 (4.5)	12 (3.2)	12 (2.4)
An assistant principal at your school	61 (4.4)	7 (2.2)	14 (3.5)	10 (2.3)	8 (2.4)
District/Diocese administrators including mathematics supervisors/coordinators‡	35 (4.1)	14 (3.1)	21 (3.0)	15 (3.1)	15 (2.5)
Teachers/coaches who do not have classroom teaching responsibilities	19 (3.5)	7 (2.5)	16 (3.4)	15 (3.2)	43 (4.2)
Teachers/coaches who have part-time classroom teaching responsibilities	68 (4.6)	7 (2.7)	10 (2.4)	8 (2.3)	7 (2.3)
Teachers/coaches who have full-time classroom teaching responsibilities	46 (4.2)	6 (2.0)	22 (3.9)	14 (3.0)	13 (2.9)

† Includes only elementary schools indicating in Q36 that teachers have access to one-on-one mathematics-focused coaching.
‡ This item was presented only to public and Catholic schools.

Table MPQ 38.2
Providers of One-on-One Mathematics-Focused Coaching in Middle Schools

	PERCENT OF SCHOOLS†				
	NOT AT ALL		SOMEWHAT		TO A GREAT EXTENT
	1	2	3	4	5
The principal of your school	45 (5.4)	6 (1.6)	23 (4.6)	13 (3.4)	13 (2.9)
An assistant principal at your school	54 (4.3)	6 (1.7)	18 (3.5)	10 (2.8)	11 (3.2)
District/Diocese administrators including mathematics supervisors/coordinators‡	32 (4.8)	15 (3.7)	16 (3.5)	17 (3.7)	20 (4.2)
Teachers/coaches who do not have classroom teaching responsibilities	30 (4.9)	7 (3.3)	9 (2.7)	14 (3.3)	40 (4.9)
Teachers/coaches who have part-time classroom teaching responsibilities	70 (5.1)	6 (3.5)	9 (2.3)	8 (2.9)	7 (2.0)
Teachers/coaches who have full-time classroom teaching responsibilities	41 (5.7)	2 (1.0)	25 (4.7)	11 (2.9)	21 (4.2)

† Includes only middle schools indicating in Q36 that teachers have access to one-on-one mathematics-focused coaching.
‡ This item was presented only to public and Catholic schools.

Table MPQ 38.3
Providers of One-on-One Mathematics-Focused Coaching in High Schools

	PERCENT OF SCHOOLS†				
	NOT AT ALL		SOMEWHAT		TO A GREAT EXTENT
	1	2	3	4	5
The principal of your school	42 (5.7)	10 (2.2)	21 (4.2)	17 (5.8)	11 (3.4)
An assistant principal at your school	48 (5.5)	7 (1.8)	18 (3.0)	17 (5.8)	10 (3.3)
District/Diocese administrators including mathematics supervisors/coordinators‡	37 (5.7)	22 (6.9)	19 (3.9)	12 (3.9)	11 (2.7)
Teachers/coaches who do not have classroom teaching responsibilities	45 (6.0)	10 (3.0)	9 (3.4)	13 (5.7)	23 (4.9)
Teachers/coaches who have part-time classroom teaching responsibilities	61 (6.4)	10 (5.4)	11 (3.2)	6 (2.1)	12 (4.0)
Teachers/coaches who have full-time classroom teaching responsibilities	31 (5.2)	8 (3.4)	20 (4.6)	17 (4.0)	24 (3.9)

† Includes only high schools indicating in Q36 that teachers have access to one-on-one mathematics-focused coaching.
‡ This item was presented only to public and Catholic schools.

Table MPQ 39
Services Provided to Mathematics Teachers in Need of Special Assistance in Mathematics Teaching, by Grade Range

	PERCENT OF SCHOOLS		
	ELEMENTARY	MIDDLE	HIGH
Seminars, classes, and/or study groups	40 (2.9)	35 (3.3)	22 (2.5)
Guidance from a formally designated mentor or coach	51 (2.8)	46 (3.4)	48 (3.8)
A higher level of supervision than for other teachers	31 (2.8)	27 (2.8)	32 (2.9)
None of the above	30 (2.9)	36 (3.3)	36 (3.5)