



# 2000 National Survey of Science and Mathematics Education



## Mathematics Questionnaire

**You have been selected to answer questions about your mathematics instruction. If you do not currently teach mathematics, please call us toll-free at 1-800-937-8288.**

### How to Complete the Questionnaire

Most of the questions instruct you to "darken one" answer or "darken all that apply." For a few questions, you are asked to write in your answer on the line provided. Please use a #2 pencil or blue or black pen to complete this questionnaire. Darken ovals completely, but do not stray into adjacent ovals. Be sure to erase or white out completely any stray marks.

### Class Selection

Part of the questionnaire (sections C and D) asks you to provide information about instruction in a particular class. If you teach mathematics to more than one class, use the label at the right to determine the mathematics class that has been randomly selected for you to answer about. (If your teaching schedule varies by day, use today's schedule, or if today is not a school day, use the most recent school day.)

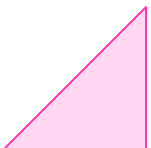
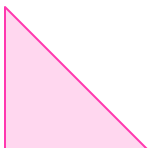
### If You Have Questions

If you have questions about the study or any items in the questionnaire, call us toll-free at 1-800-937-8288.

Each participating school will receive a voucher for \$50 worth of science and mathematics materials. The voucher will be augmented by \$15 for each responding teacher. In addition, each participating school will receive a copy of the study's results in the spring of 2001.

Thank you very much. Your participation is greatly appreciated. Please return the completed questionnaire to us in the postage-paid envelope:

*2000 National Survey of Science and Mathematics Education  
Westat  
1650 Research Blvd.  
TB120F  
Rockville, MD 20850*



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### A. Teacher Opinions

1. Please provide your opinion about each of the following statements.  
(Darken one oval on each line.)

	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
a. Students learn mathematics best in classes with students of similar abilities.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. The testing program in my state/district dictates what mathematics content I teach.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I enjoy teaching mathematics.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I consider myself a "master" mathematics teacher.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I have time during the regular school week to work with my colleagues on mathematics curriculum and teaching.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. My colleagues and I regularly share ideas and materials related to mathematics teaching.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Mathematics teachers in this school regularly observe each other teaching classes as part of sharing and improving instructional strategies.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Most mathematics teachers in this school contribute actively to making decisions about the mathematics curriculum.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2a. How familiar are you with the NCTM *Standards*? (Darken one oval.)

- Not at all familiar, SKIP TO QUESTION 3
- Somewhat familiar
- Fairly familiar
- Very familiar

2b. Please indicate the extent of your agreement with the overall vision of mathematics education described in the NCTM *Standards*. (Darken one oval.)

Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2c. To what extent have you implemented recommendations from the NCTM *Standards* in your mathematics teaching? (Darken one oval.)

Not at all	To a minimal extent	To a moderate extent	To a great extent
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

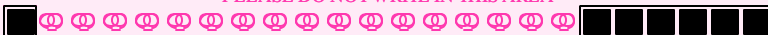
### B. Teacher Background

3. Please indicate how well prepared you currently feel to do each of the following in your mathematics instruction. (Darken one oval on each line.)

	Not Adequately Prepared	Somewhat Prepared	Fairly Well Prepared	Very Well Prepared
a. Take students' prior understanding into account when planning curriculum and instruction	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Develop students' conceptual understanding of mathematics	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Provide deeper coverage of fewer mathematics concepts	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Make connections between mathematics and other disciplines	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Lead a class of students using investigative strategies	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Manage a class of students engaged in hands-on/project-based work	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Have students work in cooperative learning groups	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Listen/ask questions as students work in order to gauge their understanding	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Use the textbook as a resource rather than the primary instructional tool	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Teach groups that are heterogeneous in ability	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Teach students who have limited English proficiency	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Recognize and respond to student cultural diversity	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Encourage students' interest in mathematics	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Encourage participation of females in mathematics	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Encourage participation of minorities in mathematics	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 3 continues on next page...

PLEASE DO NOT WRITE IN THIS AREA



[SERIAL]

3. *continued...*

	Not Adequately Prepared	Somewhat Prepared	Fairly Well Prepared	Very Well Prepared
p. Involve parents in the mathematics education of their children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
q. Use calculators/computers for drill and practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
r. Use calculators/computers for mathematics learning games	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
s. Use calculators/computers to collect and/or analyze data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
t. Use calculators/computers to demonstrate mathematics principles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
u. Use calculators/computers for simulations and applications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
v. Use the Internet in your mathematics teaching for general reference	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
w. Use the Internet in your mathematics teaching for data acquisition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
x. Use the Internet in your mathematics teaching for collaborative projects with classes/individuals in other schools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4a. Do you have each of the following degrees?

Bachelors	<input type="radio"/>	Yes	<input type="radio"/>	No
Masters	<input type="radio"/>	Yes	<input type="radio"/>	No
Doctorate	<input type="radio"/>	Yes	<input type="radio"/>	No

4b. Please indicate the subject(s) for each of your degrees. (Darken all that apply.)

	Bachelors	Masters	Doctorate
Mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer Science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mathematics Education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Science/Science Education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Elementary Education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Education (e.g., History Education, Special Education)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other, please specify _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Which of the following college courses have you completed? Include both semester hour and quarter hour courses, whether graduate or undergraduate level. Include courses for which you received college credit, even if you took the course in high school. (Darken all that apply.)

MATHEMATICS

- Mathematics for elementary school teachers
- Mathematics for middle school teachers
- Geometry for elementary/middle school teachers
- College algebra/trigonometry/elementary functions
- Calculus
- Advanced calculus
- Real analysis
- Differential equations
- Geometry
- Probability and statistics
- Abstract algebra
- Number theory
- Linear algebra
- Applications of mathematics/problem solving
- History of mathematics
- Discrete mathematics
- Other upper division mathematics

SCIENCES/COMPUTER SCIENCES

- Biological sciences
- Chemistry
- Physics
- Physical science
- Earth/space science
- Engineering (any)
- Computer programming
- Other computer science

EDUCATION

- General methods of teaching
- Methods of teaching mathematics
- Instructional uses of computers/other technologies
- Supervised student teaching in mathematics



10. In the past **12 months**, have you:  
(Darken one oval on each line.)

- |   |                                      |                                     |
|---|--------------------------------------|-------------------------------------|
| a. Taught any in-service workshops in mathematics or mathematics teaching?  | <input checked="" type="radio"/> Yes | <input type="radio"/> No            |
| b. Mentored another teacher as part of a formal arrangement that is recognized or supported by the school or district, not including supervision of student teachers? | <input checked="" type="radio"/> Yes | <input checked="" type="radio"/> No |
| c. Received any local, state, or national grants or awards for mathematics teaching?  | <input checked="" type="radio"/> Yes | <input checked="" type="radio"/> No |
| d. Served on a school or district mathematics curriculum committee?   | <input checked="" type="radio"/> Yes | <input checked="" type="radio"/> No |
| e. Served on a school or district mathematics textbook selection committee?   | <input checked="" type="radio"/> Yes | <input checked="" type="radio"/> No |

11. In the past **3 years**, have you participated in any of the following activities related to mathematics or the teaching of mathematics? (Darken one oval on each line.)

- |  |                                      |                                     |
|--|--------------------------------------|-------------------------------------|
| a. Taken a formal college/university mathematics course. (Please do not include courses taken as part of your undergraduate degree.)   | <input checked="" type="radio"/> Yes | <input type="radio"/> No            |
| b. Taken a formal college/university course in the teaching of mathematics. (Please do not include courses taken as part of your undergraduate degree.)  | <input checked="" type="radio"/> Yes | <input checked="" type="radio"/> No |
| c. Observed other teachers teaching mathematics as part of your own professional development (formal or informal).   | <input checked="" type="radio"/> Yes | <input checked="" type="radio"/> No |
| d. Met with a local group of teachers to study/discuss mathematics teaching issues on a regular basis.   | <input checked="" type="radio"/> Yes | <input checked="" type="radio"/> No |
| e. Collaborated on mathematics teaching issues with a group of teachers at a distance using telecommunications.  | <input checked="" type="radio"/> Yes | <input checked="" type="radio"/> No |
| f. Served as a mentor and/or peer coach in mathematics teaching, as part of a formal arrangement that is recognized or supported by the school or district. (Please do not include supervision of student teachers.) | <input checked="" type="radio"/> Yes | <input checked="" type="radio"/> No |
| g. Attended a workshop on mathematics teaching.  | <input checked="" type="radio"/> Yes | <input checked="" type="radio"/> No |
| h. Attended a national or state mathematics teacher association meeting.   | <input checked="" type="radio"/> Yes | <input checked="" type="radio"/> No |
| i. Applied or applying for certification from the National Board for Professional Teaching Standards (NBPTS).  | <input checked="" type="radio"/> Yes | <input checked="" type="radio"/> No |
| j. Received certification from the National Board for Professional Teaching Standards (NBPTS).   | <input checked="" type="radio"/> Yes | <input checked="" type="radio"/> No |

**Questions 12a-12c ask about your professional development in the last 3 years. If you have been teaching for fewer than 3 years, please answer for the time that you have been teaching.**

12a. Think back to **3 years ago**. How would you rate your level of need for professional development in each of these areas *at that time*? (Darken one oval on each line.)

	<u>None Needed</u>	<u>Minor Need</u>	<u>Moderate Need</u>	<u>Substantial Need</u>
Deepening my own mathematics content knowledge	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Understanding student thinking in mathematics	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Learning how to use inquiry/investigation-oriented teaching strategies	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Learning how to use technology in mathematics instruction	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Learning how to assess student learning in mathematics	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Learning how to teach mathematics in a class that includes students with special needs	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>



- 13c. **For teachers of self-contained classes:** We are interested in knowing how much time your students spend studying various subjects. In a typical week, how many days do you have lessons on each of the following subjects, and how many minutes long is an average lesson? (Please indicate "0" if you do not teach a particular subject to this class. Please enter your answer in the spaces provided, then darken the corresponding oval in each column. Enter the number of minutes as a 3-digit number; e.g., if 30 minutes, enter as 030.)

Mathematics		Science		Social Studies		Reading/Language Arts	
Days Per Week	Approximate Minutes Per Day	Days Per Week	Approximate Minutes Per Day	Days Per Week	Approximate Minutes Per Day	Days Per Week	Approximate Minutes Per Day
<input type="radio"/> 0	<input type="radio"/> 000	<input type="radio"/> 0	<input type="radio"/> 000	<input type="radio"/> 0	<input type="radio"/> 000	<input type="radio"/> 0	<input type="radio"/> 000
<input type="radio"/> 1	<input type="radio"/> 000	<input type="radio"/> 1	<input type="radio"/> 000	<input type="radio"/> 1	<input type="radio"/> 000	<input type="radio"/> 1	<input type="radio"/> 000
<input type="radio"/> 2	<input type="radio"/> 000	<input type="radio"/> 2	<input type="radio"/> 000	<input type="radio"/> 2	<input type="radio"/> 000	<input type="radio"/> 2	<input type="radio"/> 000
<input type="radio"/> 3	<input type="radio"/> 000	<input type="radio"/> 3	<input type="radio"/> 000	<input type="radio"/> 3	<input type="radio"/> 000	<input type="radio"/> 3	<input type="radio"/> 000
<input type="radio"/> 4	<input type="radio"/> 000	<input type="radio"/> 4	<input type="radio"/> 000	<input type="radio"/> 4	<input type="radio"/> 000	<input type="radio"/> 4	<input type="radio"/> 000
<input type="radio"/> 5	<input type="radio"/> 000	<input type="radio"/> 5	<input type="radio"/> 000	<input type="radio"/> 5	<input type="radio"/> 000	<input type="radio"/> 5	<input type="radio"/> 000

**NOW GO TO SECTION C, PAGE 8.**

14. Which of these categories best describes the way **your** classes at this school are organized? (Darken one oval.)

- a. **Departmentalized Instruction**—you teach subject matter courses (including mathematics, and perhaps other courses) to several different classes of students all or most of the day.
- b. **Elementary Enrichment Class**—you teach only mathematics in an elementary school.
- c. **Team Teaching**—you collaborate with one or more teachers in teaching multiple subjects to the same class of students; your assignment includes mathematics.

- 15a. **For teachers of non-self-contained classes:** Within mathematics, many teachers feel better qualified to teach some topics than others. How well qualified do you feel to teach each of the following topics **at the grade level(s) you teach**, whether or not they are currently included in your curriculum? (Darken one oval on each line.)

	Not Well Qualified	Adequately Qualified	Very Well Qualified
a. Numeration and number theory	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
b. Computation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Estimation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Measurement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Pre-algebra	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Algebra	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Patterns and relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Geometry and spacial sense	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Functions (including trigonometric functions) and pre-calculus concepts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Data collection and analysis	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
k. Probability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Statistics (e.g., hypothesis tests, curve fitting and regression)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Topics from discrete mathematics (e.g., combinatorics, graph theory, recursion)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Mathematical structures (e.g., vector spaces, groups, rings, fields)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. Calculus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p. Technology (calculators, computers) in support of mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>







63 18b. Please indicate the number of students in this class in each of the following categories. Consult the enclosed federal guidelines  
 62 at the end of the course list (blue sheet) if you have any questions about how to classify particular students. (Please enter your  
 61 answers in the spaces provided, then darken the corresponding oval in each column.)  
 60  
 59  
 58  
 57

RACE/ETHNICITY

American Indian or Alaskan Native		Asian		Black or African-American		Hispanic or Latino (any race)		Native Hawaiian or Other Pacific Islander		White	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
56											
55											
54											
53											
52											
51											
50	1	1	1	1	1	1	1	1	1	1	1
49	1	1	1	1	1	1	1	1	1	1	1
48	2	2	2	2	2	2	2	2	2	2	2
47	3	3	3	3	3	3	3	3	3	3	3
46	4	4	4	4	4	4	4	4	4	4	4
45	5	5	5	5	5	5	5	5	5	5	5
44	6	6	6	6	6	6	6	6	6	6	6
43	7	7	7	7	7	7	7	7	7	7	7
42	8	8	8	8	8	8	8	8	8	8	8
41	9	9	9	9	9	9	9	9	9	9	9
40											
39											
38											

37 19a. Questions 19a and 19b apply only to teachers of non-self-contained classes. If you teach a self-contained class, please  
 36 darken this oval  and skip to question 20. What is the usual schedule and length (in minutes) of daily class meetings for  
 35 this class? If the weekly schedule is normally the same, just complete Week 1, as in Example 1. If you are unable to describe  
 34 this class in the format below, please attach a separate piece of paper with your description.  
 33  
 32

	Week 1	Week 2
28		
27		
26		
25		
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23		
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21		
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19		
18		
17		

Examples			
Example 1		Example 2	
Week 1	Week 2	Week 1	Week 2
45		90	
45			90
45		90	
45			90
45		90	

For office use only

	1	1	2	3	4	5	6	7	8	9
	1	1	2	3	4	5	6	7	8	9
	1	1	2	3	4	5	6	7	8	9

11 19b. What is the calendar duration of this mathematics class? (Darken one oval.)  
 10  
 9

- Year
- Semester
- Quarter

20. Are students assigned to this class by level of ability? (Darken one oval.)  Yes  No

21. Which of the following best describes the ability of the students in this class relative to other students in this school? (Darken one oval.)

- Fairly homogeneous and low in ability
- Fairly homogeneous and average in ability
- Fairly homogeneous and high in ability
- Heterogeneous, with a mixture of two or more ability levels

22. Indicate if any of the students in this mathematics class are **formally** classified as each of the following: (Darken all that apply.)

- Limited English Proficiency
- Learning Disabled
- Mentally Handicapped
- Physically Handicapped, please specify handicap(s): \_\_\_\_\_

23. Think about your plans for this mathematics class for the entire course. How much emphasis will each of the following **student objectives** receive? (Darken one oval on each line.)

	None	Minimal Emphasis	Moderate Emphasis	Heavy Emphasis
a. Increase students' interest in mathematics	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
b. Learn mathematical concepts	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
c. Learn mathematical algorithms/procedures	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
d. Develop students' computational skills	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
e. Learn how to solve problems	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
f. Learn to reason mathematically	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
g. Learn how mathematics ideas connect with one another	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
h. Prepare for further study in mathematics	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
i. Understand the logical structure of mathematics	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
j. Learn about the history and nature of mathematics	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
k. Learn to explain ideas in mathematics effectively	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
l. Learn how to apply mathematics in business and industry	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
m. Learn to perform computations with speed and accuracy	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
n. Prepare for standardized tests	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

24. About how often do **you** do each of the following in your mathematics instruction? (Darken one oval on each line.)

	Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all mathematics lessons
a. Introduce content through formal presentations	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
b. Pose open-ended questions	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
c. Engage the whole class in discussions	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
d. Require students to explain their reasoning when giving an answer	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
e. Ask students to explain concepts to one another	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
f. Ask students to consider alternative methods for solutions	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
g. Ask students to use multiple representations (e.g., numeric, graphic, geometric, etc.)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
h. Allow students to work at their own pace	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
i. Help students see connections between mathematics and other disciplines	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
j. Assign mathematics homework	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
k. Read and comment on the reflections students have written, e.g., in their journals	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

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25. About how often do students in this **mathematics** class take part in the following types of activities? (Darken one oval on each line.)

	Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all mathematics lessons
a. Listen and take notes during presentation by teacher	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
b. Work in groups	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
c. Read from a mathematics textbook in class	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
d. Read other (non-textbook) mathematics-related materials in class	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
e. Engage in mathematical activities using concrete materials	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
f. Practice routine computations/algorithms	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
g. Review homework/worksheet assignments	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
h. Follow specific instructions in an activity or investigation	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
i. Design their <i>own</i> activity or investigation	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
j. Use mathematical concepts to interpret and solve applied problems	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
k. Answer textbook or worksheet questions	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
l. Record, represent, and/or analyze data	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
m. Write reflections (e.g., in a journal)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
n. Make formal presentations to the rest of the class	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
o. Work on extended mathematics investigations or projects (a week or more in duration)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
p. Use calculators or computers for learning or practicing skills	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
q. Use calculators or computers to develop conceptual understanding	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
r. Use calculators or computers as a tool (e.g., spreadsheets, data analysis)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ

26. About how often do students in this mathematics class use **calculators/computers** to: (Darken one oval on each line.)

	Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all mathematics lessons
a. Do drill and practice	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
b. Demonstrate mathematics principles	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
c. Play mathematics learning games	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
d. Do simulations	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
e. Collect data using sensors or probes	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
f. Retrieve or exchange data	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
g. Solve problems using simulations	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
h. Take a test or quiz	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ

27. How often do you assess student progress in mathematics in each of the following ways? (Darken one oval on each line.)

	Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all mathematic lessons
a. Conduct a pre-assessment to determine what students already know.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
b. Observe students and ask questions as they work individually.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
c. Observe students and ask questions as they work in small groups.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
d. Ask students questions during large group discussions.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
e. Use assessments embedded in class activities to see if students are "getting it"	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
f. Review student homework.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
g. Review student notebooks/journals.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
h. Review student portfolios.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
i. Have students do long-term mathematics projects.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
j. Have students present their work to the class.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
k. Give predominantly short-answer tests (e.g., multiple choice, true/false, fill in the blank).	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ

Question 27 continues on next page...

27. *continued*

	Never	Rarely (e.g., a few times a year)	Sometimes (e.g., once or twice a month)	Often (e.g., once or twice a week)	All or almost all mathematics lessons
l. Give tests requiring open-ended responses (e.g., descriptions, explanations).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Grade student work on open-ended and/or laboratory tasks using defined criteria (e.g., a scoring rubric).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. Have students assess each other (peer evaluation).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. For the following equipment, please indicate the extent to which each is available, whether or not each is needed, and the extent to which each is integrated in this mathematics class.

	Not at all Available	Readily Available	Needed?	Never use in this course	Use in specific parts of this course	Fully integrated into this course
a. Overhead projector	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Videotape player	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Videodisc player	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. CD-ROM player	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Four-function calculators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Fraction calculators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Graphing calculators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Scientific calculators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Computers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Calculator/computer lab interfacing devices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Computers with Internet connection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

29. How much of your own money do you estimate you will spend for supplies for this mathematics class this school year (or semester or quarter if not a full-year course)? (Please enter your answer as a 3-digit number rounded to the nearest dollar, i.e., enter \$25.19 as 025. Enter your answer in the spaces to the right, then darken the corresponding oval in each column.)

\$	<input type="text"/>	<input type="text"/>	<input type="text"/>
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If none, darken this oval:

30. How much of your own money do you estimate you will spend for your own professional development activities during the period Sept. 1, 1999 - Aug. 31, 2000? (Please enter your answer as a 3-digit number rounded to the nearest dollar, i.e., enter \$25.19 as 025. Enter your answer in the spaces to the right, then darken the corresponding oval in each column.)

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If none, darken this oval:

31. How much control do you have over each of the following for this mathematics class? (Darken one oval on each line.)

	No Control	Strong Control
a. Determining course goals and objectives	<input type="radio"/>	<input type="radio"/>
b. Selecting textbooks/instructional programs	<input type="radio"/>	<input type="radio"/>
c. Selecting other instructional materials	<input type="radio"/>	<input type="radio"/>
d. Selecting content, topics, and skills to be taught	<input type="radio"/>	<input type="radio"/>
e. Selecting the sequence in which topics are covered	<input type="radio"/>	<input type="radio"/>
f. Setting the pace for covering topics	<input type="radio"/>	<input type="radio"/>
g. Selecting teaching techniques	<input type="radio"/>	<input type="radio"/>
h. Determining the amount of homework to be assigned	<input type="radio"/>	<input type="radio"/>
i. Choosing criteria for grading students	<input type="radio"/>	<input type="radio"/>
j. Choosing tests for classroom assessment	<input type="radio"/>	<input type="radio"/>

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63 32. How much mathematics homework do you assign to this mathematics class in a typical **week**? (Darken one oval.)

- 62  0-30 min
- 61  31-60 min
- 60  61-90 min
- 59  91-120 min
- 58  2-3 hours
- 57  More than 3 hours

58 33a. Are you using one or more commercially published textbooks or programs for teaching mathematics to this class? (Darken one oval.)

- 57  No, SKIP TO SECTION D, PAGE 14
- 56  Yes, CONTINUE WITH 33b

51 33b. Which best describes your use of textbooks/programs in this class? (Darken one oval.)

- 50  Use one textbook or program all or most of the time
- 49  Use multiple textbooks/programs

45 34. Indicate the publisher of the **one** textbook/program used **most often** by students in this class. (Darken one oval.)

- |  |   |
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| <ul style="list-style-type: none"> <li>44 <input type="radio"/> Addison Wesley Longman, Inc/Scott Foresman</li> <li>43 <input type="radio"/> Brooks/Cole Publishing Co</li> <li>42 <input type="radio"/> CORD Communications</li> <li>41 <input type="radio"/> Creative Publications</li> <li>40 <input type="radio"/> Dale Seymour Publications</li> <li>39 <input type="radio"/> EFA &amp; Associates</li> <li>38 <input type="radio"/> Encyclopaedia Britannica</li> <li>37 <input type="radio"/> Everyday Learning Corporation</li> <li>36 <input type="radio"/> Globe Fearon, Inc / Cambridge</li> <li>35 <input type="radio"/> Harcourt Brace/Harcourt, Brace &amp; Jovanovich</li> <li>34 <input type="radio"/> Holt, Rinehart and Winston, Inc</li> <li>33 <input type="radio"/> Houghton Mifflin Company/McDougal Littell/D.C. Heath</li> <li>32 <input type="radio"/> Kendall Hunt Publishing</li> </ul> | <ul style="list-style-type: none"> <li>43 <input type="radio"/> Key Curriculum Press</li> <li>42 <input type="radio"/> McGraw-Hill/Merrill Co (including CTB/McGraw-Hill, Charles Merrill Publishing, Glencoe/McGraw-Hill, Macmillan/McGraw-Hill, McGraw-Hill School Division, Merrill/Glencoe, SRA/McGraw-Hill)</li> <li>41 <input type="radio"/> Optical Data Corporation</li> <li>40 <input type="radio"/> Prentice Hall, Inc.</li> <li>39 <input type="radio"/> Saxon Publishers</li> <li>38 <input type="radio"/> Silver Burdett Ginn</li> <li>37 <input type="radio"/> South-Western Educational Publishing</li> <li>36 <input type="radio"/> VideoText Interactive</li> <li>35 <input type="radio"/> Wadsworth Publishing</li> <li>34 <input type="radio"/> West Educational Publishing</li> </ul> |
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28  Other, please specify: \_\_\_\_\_

24 35a. Please indicate the title, author, and publication year of the **one** textbook/program used **most often** by students in this class.

21 Title: \_\_\_\_\_

19 First Author: \_\_\_\_\_

17 Publication Year: \_\_\_\_\_ Edition: \_\_\_\_\_

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13 35b. Approximately what percentage of this textbook/program will you "cover" in this course? (Darken one oval.)

- 12  < 25%
- 11  25-49%
- 10  50-74%
- 9  75-90%
- 8  >90%

7 35c. How would you rate the overall quality of this textbook/program? (Darken one oval.)

- 6  Very Poor
- 5  Poor
- 4  Fair
- 3  Good
- 2  Very Good
- 1  Excellent



