

**Do Not Turn Page Until
Instructed To Do So.**

TIMSS
Advanced
2015

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Student Questionnaire Advanced Mathematics

National Center for Education Statistics
U.S. Department of Education
1990 K St. NW
Washington, DC 20006-5650



TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

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Directions

In this booklet, you will find questions about yourself. Some questions ask for facts while other questions ask for your opinion.

Each question is followed by a number of answers. Fill in the oval next to or under the answer of your choice as shown in the example below.

Example

How often do you do these things?

*Fill in only **one** oval for each row.*

	Every day or almost every day	Once or twice a week	Once or twice a month	Never or almost never
a) I talk with my friends -----	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I play sports -----	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I listen to music -----	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

- Read each question carefully, and pick the answer you think is best.
- Fill in the oval next to or under your answer.
- If you decide to change your answer, completely erase your first choice. Then, fill in the oval next to or under your new answer.
- Ask for help if you do not understand something or are not sure how to answer.

About You

1

A. Are you female or male?

*Fill in **one** oval only.*

Female --

Male --

B. Are you Hispanic or Latino?

*Fill in **one** oval only.*

Yes, I am Hispanic or Latino --

No, I am not Hispanic or Latino --

C. Which of the following best describes you?

*Fill in ovals for **all** that apply.*

White --

Black or African American --

Asian --

American Indian or Alaska Native --

Native Hawaiian or other
Pacific Islander --

2

When were you born?

Fill in the ovals next to the month and year you were born.

a) Month

January --- Ⓐ

February --- Ⓑ

March --- Ⓒ

April --- Ⓓ

May --- Ⓔ

June --- Ⓕ

July --- Ⓖ

August --- Ⓗ

September --- Ⓘ

October --- Ⓣ

November --- Ⓚ

December --- Ⓛ

b) Year

1993 --- ①

1994 --- ②

1995 --- ③

1996 --- ④

1997 --- ⑤

1998 --- ⑥

1999 --- ⑦

2000 --- ⑧

2001 --- ⑨

Other --- ⑩

3

A. How often do you speak English at home?

*Fill in **one** oval only.*

Always -- ① If **Always**, please go to question 4 

Almost always -- ②

Sometimes -- ③

Never -- ④

If **Almost always, Sometimes, Never**,
please go to question 3B 

B. What language do you speak at home (other than English)?

*Fill in **one** oval only.*

Spanish -- ①

Other -- ② Please specify _____

4

How many days were you absent from school in the last month?

Fill in **one** oval only.

None -- ①

1 or 2 days -- ②

3 or 4 days -- ③

5 to 10 days -- ④

More than 10 days -- ⑤

5

Have you ever repeated a grade?

Fill in only **one** oval for each row.

Yes

No

a) In elementary school----- ① _____ ②

b) In middle or junior high school ----- ① _____ ②

c) In high school ----- ① _____ ②

6

About how many books are there in your home? (Do not count magazines, newspapers, or your school books.)

*Fill in **one** oval only.*

None or very few
(0–10 books) -- ①

Enough to fill one shelf
(11–25 books) -- ②

Enough to fill one bookcase
(26–100 books) -- ③

Enough to fill two bookcases
(101–200 books) -- ④

Enough to fill three or more bookcases
(more than 200) -- ⑤

7

How many digital information devices are there in your home? Count computers, tablets, smartphones, smart TVs, and e-readers. (Do not count other devices.)

*Fill in **one** oval only.*

None -- ①

1-3 devices -- ②

4-6 devices -- ③

7-10 devices -- ④

More than 10 devices -- ⑤

8

Do you have any of these things?

*Fill in only **one** oval for each row.*

- | | Yes | No |
|---|-----|----|
| a) Your own computer ----- | Ⓐ | Ⓑ |
| b) Your own tablet ----- | Ⓐ | Ⓑ |
| c) Your own smartphone ----- | Ⓐ | Ⓑ |
| d) Your own graphing calculator----- | Ⓐ | Ⓑ |
| e) A gaming system
(e.g., PlayStation, Wii, Xbox)----- | Ⓐ | Ⓑ |
| f) Study desk/table for your use ----- | Ⓐ | Ⓑ |
| g) Your own room----- | Ⓐ | Ⓑ |
| h) Your own car ----- | Ⓐ | Ⓑ |

9

A. What is the highest level of education completed by your mother (or stepmother or female legal guardian)?

*Fill in **one** oval only.*

- Less than high school -- ①
- Some high school -- ②
- High school graduate -- ③
- Associate's degree (2-year college program) -- ④
- Bachelor's degree (4-year college program) -- ⑤
- Master's degree or professional degree (MD, DDS, lawyer, minister) -- ⑥
- Doctorate (Ph.D., or Ed.D.) -- ⑦
- I don't know -- ⑧

B. What is the highest level of education completed by your father (or stepfather or male legal guardian)?

*Fill in **one** oval only.*

- Less than high school -- ①
- Some high school -- ②
- High school graduate -- ③
- Associate's degree (2-year college program) -- ④
- Bachelor's degree (4-year college program) -- ⑤
- Master's degree or professional degree (MD, DDS, lawyer, minister) -- ⑥
- Doctorate (Ph.D., or Ed.D.) -- ⑦
- I don't know -- ⑧

10

What kind of work do your father (or stepfather or male legal guardian) and mother (or stepmother or female legal guardian) do for their main jobs?

For each, fill in the oval for the job category that best describes what he/she does. Each category has a few examples to help you decide the correct category. If your father or mother is not working now, think about the last job he/she had.

Fill in only **one** oval for each column.

	Your father	Your mother
a) Has never worked for pay -----	①	②
b) Small Business Owner ----- Includes owners of small businesses (fewer than 25 employees) such as retail shops, services, restaurants	①	②
c) Clerk ----- Includes office clerks; secretaries; typists; data entry operators; customer service clerks	①	②
d) Service or Sales Worker ----- Includes travel attendants; restaurant service workers; personal care workers; protective service workers; enlisted military and police; salespersons; street vendors	①	②
e) Skilled Agricultural or Fishery Worker ----- Includes farmers; forestry workers; fishery workers; hunters and trappers	①	②
f) Craft or Trade Worker ----- Includes builders, carpenters, plumbers, electricians, metal workers; machine mechanics; handicraft workers	①	②

Continued on next page

10 (continued)

	Your father	Your mother
g) Plant or Machine Operator -----	①	②
Includes plant and machine operators; assembly-line operators; motor-vehicle drivers		
h) General Laborers -----	①	②
Includes domestic helpers and cleaners; building caretakers; messengers, porters, and doorkeepers; farm, fishery, agricultural, and construction workers		
i) Corporate Manager or Senior Official -----	①	②
Includes corporate managers such as managers of large companies (25 or more employees) or managers of departments within large companies; legislators or senior government officials; senior officials of special-interest organizations; military officers		
j) Professional -----	①	②
Includes scientists; mathematicians; computer scientists; architects; engineers; life science and health professionals; teachers; legal professionals; social scientists; writers and artists; religious professionals		
k) Technician or Associate Professional -----	①	②
Includes science, engineering, and computer associates and technicians; life science and health technicians and assistants; teacher aides; finance and sales associate professionals; business service agents; administrative assistants		
l) I don't know -----	①	②

11

How far in your education do you expect to go?

*Fill in **one** oval only.*

High school -- ①

Associate's degree
(2-year college program) -- ②

Bachelor's degree
(4-year college program) -- ③

Master's degree or professional degree
(MD, DDS, lawyer, minister) -- ④

Doctorate (Ph.D., or Ed.D.) -- ⑤

12

If you plan to continue your education, which area(s) do you intend to study?

*Fill in ovals for **all** that apply.*

- a) Mathematics or Statistics----- ①
- b) Physics ----- ①
- c) Chemistry----- ①
- d) Biological and Biomedical Sciences (e.g., dentistry, medicine, nursing, pharmacology, veterinary medicine)----- ①
- e) Engineering and Engineering Technologies (e.g., aerospace engineering, chemical engineering, civil engineering, electrical engineering, mechanical engineering) ----- ①
- f) Computer and Information Sciences ----- ①
- g) Education ----- ①
- h) Business (e.g., accounting, marketing, administration, finance, management) ----- ①
- i) Law----- ①
- j) Social Sciences (e.g., sociology, political science, economics, psychology) ----- ①
- k) Arts and Humanities (e.g., art, language, literature, history, philosophy) ----- ①
- l) Other Science Fields of Study ----- ①
- m) Other Non-science Fields of Study ----- ①

13

In the future, do you want to work in any of the following professional fields?

*Fill in only **one** oval for each row.*

	Yes	Maybe	No
a) Education (e.g., teacher, university professor) -----	①	②	③
b) Engineering and Engineering Technologies (e.g., aerospace engineer, chemical engineer, civil engineer, electrical engineer, mechanical engineer) -----	①	②	③
c) Computer and Information Sciences (e.g., database administrator, network administrator, software or application developer, systems analyst) -----	①	②	③
d) Finance/Banking -----	①	②	③
e) Biological and Biomedical Sciences (e.g., biomedical engineer, biochemist, biophysicist, dentist, medical doctor, nurse, veterinarian) -----	①	②	③
f) Environmental Sciences -----	①	②	③
g) Agriculture and Agricultural Sciences -----	①	②	③
h) Actuarial Sciences (i.e., uses mathematical and statistical methods to assess risk) -----	①	②	③
i) Other Fields -----	①	②	③

A. Was your mother (or stepmother or female legal guardian) born in the United States? (“United States” includes the 50 states, its territories, the District of Columbia, and U.S. military bases abroad.)

*Fill in **one** oval only.*

Yes -- ①

No -- ②

I don't know -- ③

B. Was your father (or stepfather or male legal guardian) born in the United States?

*Fill in **one** oval only.*

Yes -- ①

No -- ②

I don't know -- ③

15

A. Were you born in the United States?

*Fill in **one** oval only.*

Yes -- ① 

(If Yes, go to question 16)

No -- ②

If No,

B. If you were not born in the United States, how old were you when you came to the United States?

*Fill in **one** oval only.*

Older than 15 years old -- ①

11 to 15 years old -- ②

5 to 10 years old -- ③

Younger than 5 years old -- ④

Studying Advanced Mathematics

16

How much time do you spend in mathematics class each week?

_____ minutes per week

Write in the number of **minutes** per week.

Please convert the number of classes/periods into minutes.

17

How much time do you spend on mathematics outside of class each week?

_____ minutes per week

Write in the number of **minutes** per week.

Please convert the number of hours into minutes.

18

A. During the school year, do you work at a paid job on a regular basis?

Fill in **one** oval only.

Yes -- ①

No -- ② 

(If No, go to question 19)

If Yes,

B. How much time do you spend working at the paid job each week?

_____ minutes per week

Write in the number of **minutes** per week.

Please convert the number of hours into minutes.

19

A. During the last 12 months, have you attended extra lessons or tutoring not provided by the school in advanced mathematics?

*Fill in **one** oval only.*

Yes -- ①

No -- ② 

(If No, go to question 20)

If Yes,

B. Why did you attend these extra lessons or tutoring?

*Fill in only **one** oval for each row.*

Yes No



- a) To excel in class ① _____ ②
- b) To keep up in class ① _____ ②
- c) To do well on an examination ① _____ ②

C. For how many of the last 12 months have you attended extra lessons or tutoring in advanced mathematics?

*Fill in **one** oval only.*

Less than 4 months -- ①

4-8 months -- ②

More than 8 months -- ③

How much do you agree with these statements about your advanced mathematics lessons?

Fill in only **one** oval for each row.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) The teacher clearly communicates the purpose of each mathematics lesson	↓ ①	↓ ②	↓ ③	↓ ④
b) I know what my teacher expects me to do	①	②	③	④
c) My teacher is easy to understand ..	①	②	③	④
d) I am interested in what my teacher says	①	②	③	④
e) My teacher gives me interesting things to do	①	②	③	④
f) My teacher asks me thought-provoking questions	①	②	③	④
g) My teacher has clear answers to my questions	①	②	③	④
h) My teacher links new content to what I already know	①	②	③	④

20 (continued)

How much do you agree with these statements about your advanced mathematics lessons?

Fill in only **one** oval for each row.

- | | Agree
a lot | Agree
a little | Disagree
a little | Disagree
a lot |
|---|----------------|-------------------|----------------------|-------------------|
| i) My teacher is good at explaining advanced mathematics | ① | ② | ③ | ④ |
| j) My teacher provides the opportunity for me to show what I have learned | ① | ② | ③ | ④ |
| k) My teacher encourages me to keep working on advanced mathematics problems until I solve them | ① | ② | ③ | ④ |
| l) My teacher provides helpful feedback on my schoolwork (including homework) | ① | ② | ③ | ④ |
| m) My teacher uses a variety of teaching methods, tasks, and activities to help us learn | ① | ② | ③ | ④ |
| n) My teacher believes that I can learn difficult advanced mathematics material | ① | ② | ③ | ④ |
| o) I like the way my teacher teaches mathematics | ① | ② | ③ | ④ |

21

Do you use the Internet to do any of the following tasks for advanced mathematics schoolwork (including classroom tasks, homework, and studying outside of class)?

Fill in only **one** oval for each row.

- | | Yes | No |
|--|-----------------------|-----------------------|
| a) Access the textbook or other course materials | <input type="radio"/> | <input type="radio"/> |
| b) Access assignments posted online by my teacher | <input type="radio"/> | <input type="radio"/> |
| c) Collaborate with classmates on mathematics assignments or projects | <input type="radio"/> | <input type="radio"/> |
| d) Communicate with the teacher | <input type="radio"/> | <input type="radio"/> |
| e) Discuss mathematics topics with other students | <input type="radio"/> | <input type="radio"/> |
| f) Find information, articles, or tutorials to aid in understanding mathematics concepts | <input type="radio"/> | <input type="radio"/> |
| g) Find information, articles, or tutorials to aid in solving mathematics problems | <input type="radio"/> | <input type="radio"/> |

22

How much do you agree with these statements about the mathematics you are studying?

Fill in only **one** oval for each row.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) When I do mathematics problems, I sometimes get completely absorbed	↓ ①	↓ ②	↓ ③	↓ ④
b) I get a sense of satisfaction when I solve mathematics problems	①	②	③	④
c) I feel bored when I do my mathematics schoolwork	①	②	③	④
d) I like studying for my mathematics class outside of school	①	②	③	④
e) It is interesting to learn mathematics theory	①	②	③	④
f) I dread my mathematics class	①	②	③	④
g) I am studying mathematics because I like to learn new things--	①	②	③	④
h) I enjoy figuring out challenging mathematics	①	②	③	④
i) Mathematics is one of my favorite subjects	①	②	③	④
j) Jobs that require advanced mathematics skills seem interesting to me	①	②	③	④
k) I wish I did not have to study mathematics	①	②	③	④
l) I enjoy thinking about the world in terms of mathematical relationships	①	②	③	④

23

How much do you agree with these statements about the mathematics you are studying?

Fill in only **one** oval for each row.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) Learning mathematics will help me get ahead in the world	Ⓐ	Ⓑ	Ⓒ	Ⓓ
b) It is important to do well in my mathematics class	Ⓐ	Ⓑ	Ⓒ	Ⓓ
c) The mathematics I am studying is not useful for my future	Ⓐ	Ⓑ	Ⓒ	Ⓓ
d) My parents are pleased that I am taking advanced mathematics	Ⓐ	Ⓑ	Ⓒ	Ⓓ
e) Doing well in mathematics will help me get into the college or university of my choice	Ⓐ	Ⓑ	Ⓒ	Ⓓ
f) Learning advanced mathematics does not seem to be a worthwhile exercise	Ⓐ	Ⓑ	Ⓒ	Ⓓ
g) My parents think that it is important that I do well in my mathematics class	Ⓐ	Ⓑ	Ⓒ	Ⓓ
h) I like telling people I am studying advanced mathematics	Ⓐ	Ⓑ	Ⓒ	Ⓓ
i) Learning advanced mathematics will give me more job opportunities	Ⓐ	Ⓑ	Ⓒ	Ⓓ

24

How hard was this test compared to most other tests you have taken this year in school?

*Fill in **one** oval only.*

Easier than other tests -- ①

About as hard as other tests -- ②

Harder than other tests -- ③

Much harder than other tests -- ④

25

How hard did you try on this test compared to how hard you tried on most other tests you have taken this year in school?

*Fill in **one** oval only.*

Not as hard as on other tests -- ①

About as hard as on other tests -- ②

Harder than on other tests -- ③

Much harder than on other tests -- ④

26

How important was it to you to do well on this test?

*Fill in **one** oval only.*

Not very important -- ①

Somewhat important -- ②

Important -- ③

Very important -- ④

Academic and Post-Secondary Preparation

27

In what grade did you complete any of the courses listed below?

Fill in *one or more* ovals in each row.

	Never	Grade 8 or earlier	Grade 9	Grade 10	Grade 11	Grade 12
a) Algebra I course	⓪	⓪	⓪	⓪	⓪	⓪
b) Geometry course	⓪	⓪	⓪	⓪	⓪	⓪
c) Algebra II course, with or without trigonometry	⓪	⓪	⓪	⓪	⓪	⓪
d) Trigonometry (as a separate course)	⓪	⓪	⓪	⓪	⓪	⓪
e) Pre-calculus course (also called introductory analysis)	⓪	⓪	⓪	⓪	⓪	⓪
f) Calculus course	⓪	⓪	⓪	⓪	⓪	⓪
g) Probability or statistics course	⓪	⓪	⓪	⓪	⓪	⓪
h) Integrated mathematics 1 (first year of a multi-year course)	⓪	⓪	⓪	⓪	⓪	⓪
i) Integrated mathematics 2 (second year of a multi- year course)	⓪	⓪	⓪	⓪	⓪	⓪
j) Integrated mathematics 3 (third year of a multi-year course)	⓪	⓪	⓪	⓪	⓪	⓪
k) Integrated mathematics 4 (fourth year of a multi-year course)	⓪	⓪	⓪	⓪	⓪	⓪
l) Other advanced mathematics course	⓪	⓪	⓪	⓪	⓪	⓪

28

Please indicate if you have taken or are currently enrolled in any of the following Advanced Placement (AP) courses. Have taken or are enrolled in:

Fill in only **one** oval for each row.

- | | Yes | No |
|---|-----------------------|-----------------------|
| a) Advanced Placement (AP)
Calculus AB | <input type="radio"/> | <input type="radio"/> |
| b) Advanced Placement (AP)
Calculus BC | <input type="radio"/> | <input type="radio"/> |
| c) Advanced Placement (AP)
Statistics | <input type="radio"/> | <input type="radio"/> |

29

Are you currently enrolled in or have you taken any online mathematics courses?

Fill in **one** oval only.

- No -- ①
- Yes, but not for credit -- ②
- Yes, for high school credit -- ③
- Yes, for college credit -- ④
- Yes, for both high school
and college credit -- ⑤

30

Are you currently enrolled in or have you taken an International Baccalaureate (IB) mathematics course?

*Fill in **one** oval only.*

Yes -- ①

No -- ②

31

During this school year, which of the following have you done?

Taken the SAT or ACT college
entrance exams -- ①

Submitted the Free Application for
Federal Student Aid (FAFSA) -- ①

Applied to a 2-year college -- ①

Been accepted to a 2-year college -- ①

Applied to a 4-year college -- ①

Been accepted to a 4-year college -- ①

Talked with a military recruiter or
contacted a ROTC program -- ①

Enlisted in the military or enrolled
in a ROTC program -- ①

Applied for a full-time job -- ①

Been interviewed for a full-time job -- ①

None of the above -- ①

Your School

32

What do you think about your school? Tell how much you agree with these statements.

Fill in only **one** oval for each row.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) I enjoy school	①	②	③	④
b) I feel safe when I am at school	①	②	③	④
c) I feel like I belong at this school	①	②	③	④
d) I like to see my classmates at school	①	②	③	④
e) Teachers at my school are fair to me	①	②	③	④
f) I am proud to go to this school	①	②	③	④
g) I learn a lot in school	①	②	③	④
h) My classmates respect students who excel in school subjects	①	②	③	④
i) My classmates respect students who struggle learning school subjects	①	②	③	④

33

During this school year, how often have other students from your school done any of the following things to you (including through texting or the Internet)?

Fill in only **one** oval for each row.

	At least once a week	Once or twice a month	A few times a year	Never
a) Made fun of me or called me names	↓ ①	↓ ②	↓ ③	↓ ④
b) Excluded me from their activities --	①	②	③	④
c) Spread lies about me	①	②	③	④
d) Stole something from me	①	②	③	④
e) Hit or hurt me (<i>e.g., shoving, hitting, kicking</i>)	①	②	③	④
f) Made me do things I didn't want to do	①	②	③	④
g) Posted embarrassing things about me online	①	②	③	④
h) Threatened me	①	②	③	④

34

During this school year, did you participate in any of these extracurricular activities?

*Fill in ovals for **all** that apply.*

Sports --

Performing arts --

Academic clubs --

Vocational/professional clubs --

Honor societies --

Publications --

Student government --

Service clubs --

Hobby clubs --

Thank You!

Thank you for filling out the questionnaire!



BOSTON
COLLEGE

TIMSS
Advanced
2015

TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

Booklet



Mathematics



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