

Mathematics Student Questionnaire

**2018
Grade 12
(Pilot)**

Pilot

These items are being pilot tested in 2018 for possible inclusion in the 2019 NAEP operational assessment. Some items that are pilot tested may not be included in the final assessment. A pilot is a pretest that occurs prior to an assessment. Individual students will receive a subset of these 2018 pilot questions.

2018 Pilot Mathematics Student G12

VH240819

1. Which courses have you taken from eighth grade to the present? If you have taken a course more than once, give the **most recent** year you took it. **INCLUDE** courses taken in summer school, but **DO NOT INCLUDE** topics that were only taught as part of a longer course (such as trigonometry taught in drafting class or computer programming taught in Algebra II). Select **one** answer choice on each row.

	I have never taken this course.	I took this course in or before Grade 8.	I took this course in Grade 9.	I took this course in Grade 10.	I took this course in Grade 11.	I took this course in Grade 12.	
a. Basic or general mathematics course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240820
b. Tech-prep mathematics, business mathematics, consumer mathematics, or other applied mathematics course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240844
c. Introduction to algebra or pre-algebra course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240822
d. Algebra I course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240823
e. Geometry course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240824
f. Algebra II course, with or without trigonometry	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240825
g. Trigonometry (as a separate course)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240826
h. Pre-calculus course (also called introductory analysis)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240833
i. Integrated mathematics 1 (first year of a multi-year course)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240841
j. Integrated mathematics 2 (second year of a multi-year course)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240842
k. Integrated mathematics 3 (third year of a multi-year course)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240843

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	I have never taken this course.	I took this course in or before Grade 8.	I took this course in Grade 9.	I took this course in Grade 10.	I took this course in Grade 11.	I took this course in Grade 12.	
l. Integrated mathematics 4 (fourth year of a multi-year course)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240821
m. Probability or statistics course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240836
n. Calculus course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240829
o. Computer programming course (such as C++, Visual Basic, etc.)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240835
p. Other mathematics course (specify): <hr/>	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VH240834

VH250444

2. Are you currently enrolled in or have you taken any of the following Advanced Placement (AP[®]) courses? Select **all** that apply.

- Ⓐ Yes, I am enrolled in or have taken Advanced Placement (AP) Calculus AB.
- Ⓑ Yes, I am enrolled in or have taken Advanced Placement (AP) Calculus BC.
- Ⓒ Yes, I am enrolled in or have taken Advanced Placement (AP) Statistics.
- Ⓓ No, I have not taken any of the courses listed above.

VH240048

3. Are you currently enrolled in or have you taken an International Baccalaureate[®] (IB) mathematics course?

- Ⓐ Yes
- Ⓑ No

4. Are you currently enrolled in or have you taken any **online** mathematics courses for **high school or college credit**?

- Ⓐ Yes
- Ⓑ No

5. Was there a mathematics course that you would have liked to have taken this school year but did not take?

- Ⓐ Yes, but my school does not offer the course.
- Ⓑ Yes, but the course was full.
- Ⓒ Yes, but I did not have the necessary prerequisites.
- Ⓓ Yes, but my schedule was full.
- Ⓔ No, there was no other course that I wanted to take.

6. Please indicate how much you **DISAGREE** or **AGREE** with the following statements. Select **one** answer choice on each row.

	Strongly disagree	Disagree	Agree	Strongly agree	
a. Math is one of my favorite subjects.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VH240768
b. I take mathematics because it will help me in the future.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VH240770
c. I take mathematics to meet my high school graduation requirements.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VH240767

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VH267478

7. How much does each of the following statements describe a person like you? Select **one** answer choice on each row.

	Not at all like me	A little bit like me	Somewhat like me	Quite a bit like me	Exactly like me	
a. I enjoy doing math.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267479
b. I look forward to my math class.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267481
c. I am interested in the things I learn in math.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH617324
d. I think making an effort in math is worthwhile.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267485
e. I think math will help me even when I am not in school.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267486
f. I think it is important to do well in math.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267487
g. I take mathematics because it will help me in the future.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH651872
h. I take mathematics to meet my high school graduation requirements.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH651874

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VH731852

8. How much does each of the following statements describe you? Select **one** answer choice on each row.

	Not at all like me	A little bit like me	Somewhat like me	Quite a bit like me	Exactly like me	
a. I enjoy doing math.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH731853
b. I look forward to my math class.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH731854
c. I am interested in the things I learn in math.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH731858
d. I think making an effort in math is worthwhile.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH731855
e. I think math will help me even when I am not in school.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH731860
f. I think it is important to do well in math.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH731857
g. I take mathematics because it will help me in the future.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH731859
h. I take mathematics to meet my high school graduation requirements.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH731856

VH240051

9. Are you currently taking a mathematics course?

- Ⓐ Yes
- Ⓑ No

10. For school this year, how often have you been asked to write long answers (several sentences or paragraphs) to questions on tests or assignments that involved math?

- Ⓐ Never
- Ⓑ Once
- Ⓒ Two or three times
- Ⓓ Four or five times
- Ⓔ More than five times

11. For school this year, how often do you work in pairs or small groups to talk about something that you have done in math?

- Ⓐ Never
- Ⓑ About once or twice a year
- Ⓒ About once or twice a month
- Ⓓ About once or twice a week
- Ⓔ Every day or almost every day

12. How often do you use a computer or other digital device (excluding handheld calculators) for math **at school**?

- Ⓐ Never
- Ⓑ About once or twice a year
- Ⓒ About once or twice a month
- Ⓓ About once or twice a week
- Ⓔ Every day or almost every day

13. How often do you receive help or tutoring with math **outside of school or after school**?

- Ⓐ Never
- Ⓑ About once or twice a year
- Ⓒ About once or twice a month
- Ⓓ About once or twice a week
- Ⓔ Every day or almost every day

14. In your math class this year, how often have you used the following types of calculators? Select **one** answer choice on each row.

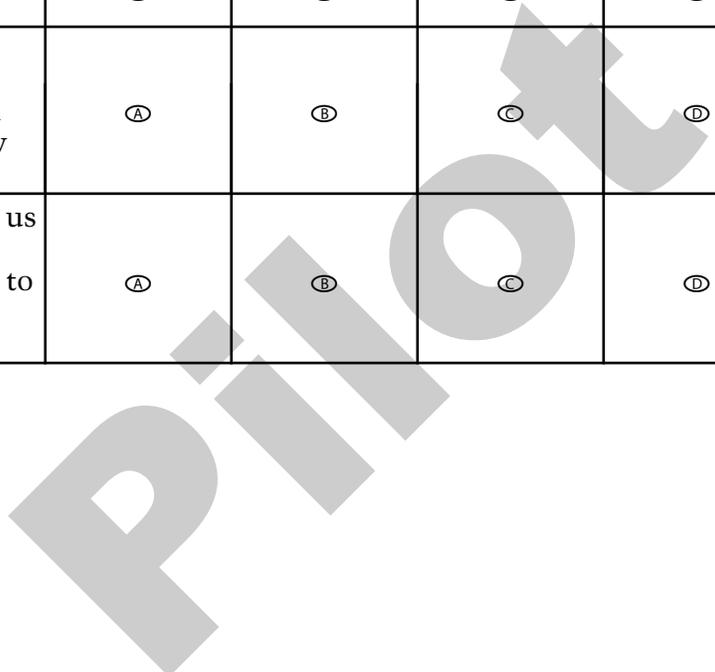
	Never or hardly ever	Less than half of the time	About half of the time	More than half of the time	All or almost all of the time	
a. Basic calculator	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH266809
b. Graphing calculator	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH266810

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VH589166

15. This school year, how often did the following things happen in your math class? Select **one** answer choice on each row.

	Never or hardly ever	Less than half of the time	About half of the time	More than half of the time	All or almost all of the time	
a. My teacher used computers or other digital devices to show us how to work through math problems.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267416
b. I used the Internet for my math work.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267417
c. My teacher used computers or other digital devices when teaching math to my class.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH588077
d. My teacher required us to use computers or other digital devices to complete math assignments.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267419



16. In this school year, how often have you used a computer or other digital device (excluding handheld calculators) to complete your math assignments?

- Ⓐ Never
- Ⓑ About once or twice a year
- Ⓒ About once or twice a month
- Ⓓ About once or twice a week
- Ⓔ Every day or almost every day

17. In this school year, how often have you used a computer or other digital device (excluding handheld calculators) to look online for resources for help with your math assignments?

- Ⓐ Never
- Ⓑ About once or twice a year
- Ⓒ About once or twice a month
- Ⓓ About once or twice a week
- Ⓔ Every day or almost every day

18. In this school year, how often have you used a computer or other digital device (excluding handheld calculators) to take an online practice test?

- Ⓐ Never
- Ⓑ Once
- Ⓒ Two or three times
- Ⓓ Four or five times
- Ⓔ More than five times

19. How often do you use math in everyday life **outside of school**?

- Ⓐ Never
- Ⓑ About once or twice a year
- Ⓒ About once or twice a month
- Ⓓ About once or twice a week
- Ⓔ Every day or almost every day

20. How often do you participate in each of the following activities **outside of school**? Select **one** answer choice on each row.

	Never	About once or twice a year	About once or twice a month	About once or twice a week	Every day or almost every day	
a. Talk about math problems with your friends	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH268946
b. Program computers	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH268949
c. Play an instrument and read music	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH268961
d. Go to websites for help with your math homework	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH268962

21. Have you ever helped your friends with their math homework?

Ⓐ Yes

Ⓑ No

22. Over the past seven days, how many days have you helped your friends with their math homework? Enter the number of days.

23. Thinking about math, do you think that you would be able to do each of the following? Do not actually solve the problems. Select **one** answer choice on each row.

	I definitely can't	I probably can't	Maybe	I probably can	I definitely can	
a. Estimate the weight of 5 apples using pounds (lbs.)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267674
b. Divide 42 stickers among 6 students	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH617317
c. Determine a 20 percent tip of a 67-dollar restaurant dinner bill	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267679
d. Describe the properties shared by every isosceles right triangle	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267681
e. Find the amount of carpet needed to cover a rectangular floor if you know its length and width	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267682
f. Know when to take a turkey out of the oven if it goes in at 10:00 A.M. and it takes 3 hours and 45 minutes to cook	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267683

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VH269048

24. How much does each of the following statements describe a person like you? Select **one** answer choice on each row.

	Not at all like me	A little bit like me	Somewhat like me	Quite a bit like me	Exactly like me	
a. I want other students to think I am good at math.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH269049
b. I want to show others that my math schoolwork is easy for me.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH269050
c. I want to look smart in comparison to the other students in my math class.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH269053
d. I want to learn as much as possible in my math class.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH269059
e. I want to become better in math this year.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH269056
f. I want to understand as much as I can in my math class.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH269060

Pilot

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VH731865

25. How much does each of the following statements describe you? Select **one** answer choice on each row.

	Not at all like me	A little bit like me	Somewhat like me	Quite a bit like me	Exactly like me	
a. I want other students to think I am good at math.	(A)	(B)	(C)	(D)	(E)	VH731866
b. I want to show others that my math schoolwork is easy for me.	(A)	(B)	(C)	(D)	(E)	VH731867
c. I want to look smart in comparison to the other students in my math class.	(A)	(B)	(C)	(D)	(E)	VH731868
d. I want to learn as much as possible in my math class.	(A)	(B)	(C)	(D)	(E)	VH731872
e. I want to become better in math this year.	(A)	(B)	(C)	(D)	(E)	VH731870
f. I want to understand as much as I can in my math class.	(A)	(B)	(C)	(D)	(E)	VH731873

26. How much do you enjoy solving each of the following types of math problems? Select **one** answer choice on each row.

	Enjoy not at all	Enjoy a little bit	Enjoy somewhat	Enjoy quite a bit	Enjoy a lot	
a. Addition, subtraction, multiplication, and division	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267499
b. Finding areas of shapes and figures	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267501
c. Solving for probabilities and events (for example, card, coin, marble, and spinner problems)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267502
d. Solving equations or simplifying expressions	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267503
e. Constructing and building different types of graphs (for example, bar graph, line graph, or box and whisker plots)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267504
f. Working with geometric figures like rectangles and squares	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH267505

27. How often do you play digital games (for example, apps, video games, or computer games) **outside of school** that involve math?

- Ⓐ Never
- Ⓑ About once or twice a year
- Ⓒ About once or twice a month
- Ⓓ About once or twice a week
- Ⓔ Every day or almost every day

28. How often do you use a computer, tablet, smartphone, or gaming console **outside of school** to play **educational games** that involve math?

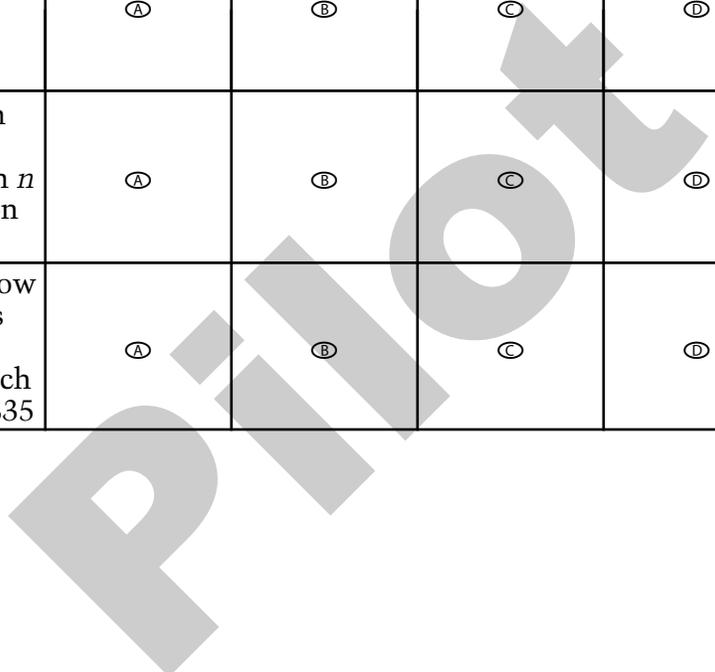
- Ⓐ Never
- Ⓑ About once or twice a year
- Ⓒ About once or twice a month
- Ⓓ About once or twice a week
- Ⓔ Every day or almost every day

29. How often do you use a computer, tablet, smartphone, or gaming console **outside of school** to play **popular games** that involve math?

- Ⓐ Never
- Ⓑ About once or twice a year
- Ⓒ About once or twice a month
- Ⓓ About once or twice a week
- Ⓔ Every day or almost every day

30. Thinking about math, do you think that you would be able to do each of the following? Do not actually solve the problems. Select **one** answer choice on each row.

	I definitely can't	I probably can't	Maybe	I probably can	I definitely can	
a. Create an expression that represents the average number of miles you run in a week if you run 100 miles in w weeks	(A)	(B)	(C)	(D)	(E)	VH460383
b. Create an expression to show how old you will be in n years if you are 8 years old today	(A)	(B)	(C)	(D)	(E)	VH460386
c. Create an expression that shows the number of wheels on n wagons if each wagon has 4 wheels	(A)	(B)	(C)	(D)	(E)	VH460389
d. Explain how you know the number of books you can buy if you know the price of each book and you have \$35	(A)	(B)	(C)	(D)	(E)	VH460391



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VH613523

31. Thinking about math, do you think that you would be able to do each of the following? Select **one** answer choice on each row.

	I definitely can't	I probably can't	Maybe	I probably can	I definitely can	
a. Decide if your classmate's math work is correct	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH460398
b. Give an example to show that a math statement is false	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH460399
c. Explain to your classmate how you solved a math problem	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH460910
d. Use correct mathematical words and symbols to communicate ideas about math	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH460900
e. Use correct mathematical words and symbols when showing your work	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH460902
f. Use definitions of geometric shapes to support an argument	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VH460912

VH460923

32. Have you ever participated in a math study group **outside of school**?

A Yes

B No

VH460925

33. Over the past seven days, how many days have you participated in a math study group **outside of school**? Enter the number of days.

VH460401

34. Have you ever participated in a math study group **at school**?

A Yes

B No

VH460877

35. Over the past seven days, how many days have you participated in a math study group **at school**? Enter the number of days.