

National Center for Education Statistics

2019 Mathematics Grade 12 Assessment Report Card: Summary Data Tables for National Sample Sizes, Participation Rates, Proportions of SD and EL Students Identified, Demographics, and Performance Results

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Student sample sizes and target populations in NAEP mathematics at grade 12: 2019

	Sample size	Target population
Nation	26,200	3,445,000
Public	24,800	3,179,000
Private	1,400	265,000

NOTE: In 2019, the digitally based NAEP mathematics assessment at grade 12 was administered for the first time. The 2019 grade 12 mathematics results include results from students who took the digitally based assessment (DBA) and students who took the paper-based assessment (PBA). The sample size is rounded to the nearest hundred. The target population is rounded to the nearest thousand. Data for BIE and DoDEA schools are counted in the overall national totals, but not in the public school totals. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2019 Mathematics Assessment.

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Public and nonpublic school and student participation rates in NAEP mathematics at grade 12: 2019

	School participation			Student participation	
	Student-weighted percent	School-weighted percent	Number of schools participating	Student-weighted percent	Number of students assessed
Nation	84	73	1,770	72	25,400
Public	88	86	1,640	72	24,000
Private	35	33	130	75	1,400

NOTE: In 2019, the digitally based NAEP mathematics assessment at grade 12 was administered for the first time. The 2019 grade 12 mathematics results include results from students who took the digitally based assessment (DBA) and students who took the paper-based assessment (PBA). However, participation rates in 2019 are from the digitally based assessment only. The national totals for schools include Department of Defense Education Activity (overseas and domestic schools) and Bureau of Indian Education schools, which are not included in either the public or private school totals. The national totals for students include students in these schools. The number of schools is rounded to the nearest ten. The number of students is rounded to the nearest hundred. The school participation rates are student-weighted percentages before substitution. Columns of percentages have different denominators. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2019 Mathematics Assessment.

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Percentage of twelfth-grade students with disabilities (SD) and/or English learners (EL) excluded and assessed in NAEP mathematics, as a percentage of all students, by SD/EL category: Various years, 2005–2019

SD/EL category	2005	2009	2013	2015	2019
SD and/or EL					
Identified	13	13	13	14	16
Excluded	3	3	2	2	2
Assessed	10	10	11	12	14
Without accommodations	5	3	3	3	3
With accommodations	5	6	9	9	11
SD					
Identified	10	11	11	11	13
Excluded	3	3	2	2	2
Assessed	7	7	9	9	11
Without accommodations	3	2	1	1	1
With accommodations	4	5	8	8	9
EL					
Identified	4	3	3	4	5
Excluded	1	#	#	#	#
Assessed	4	3	3	3	4
Without accommodations	3	2	1	2	2
With accommodations	1	1	1	1	2

Rounds to zero.

NOTE: In 2019, the digitally based NAEP mathematics assessment at grade 12 was administered for the first time. The 2019 grade 12 mathematics results include results from students who took the digitally based assessment (DBA) and students who took the paper-based assessment (PBA). Students identified as both SD and EL were counted only once under the combined SD and/or EL category, but were counted separately under the SD and EL categories. SD includes students identified as having either an Individualized Education Program or protection under Section 504 of the Rehabilitation Act of 1973. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 2005–2019 Mathematics Assessments.

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Percentage of twelfth-grade students with disabilities (SD) and/or English learners (EL) excluded and assessed in NAEP mathematics, as a percentage of identified SD and/or EL students, by SD/EL category:
2019

SD/EL category	Percentage of identified SD and/or EL students			
	Excluded	Assessed	Assessed without accommodations	Assessed with accommodations
SD and/or EL	13	87	21	65
SD	17	83	12	72
EL	5	95	46	48

NOTE: In 2019, the digitally based NAEP mathematics assessment at grade 12 was administered for the first time. The 2019 grade 12 mathematics results include results from students who took the digitally based assessment (DBA) and students who took the paper-based assessment (PBA). Students identified as both SD and EL were counted only once under the combined SD and/or EL category, but were counted separately under the SD and EL categories. SD includes students identified as having either an Individualized Education Program or protection under Section 504 of the Rehabilitation Act of 1973. Detail may not sum to totals because of rounding.

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Percentage of twelfth-grade students with disabilities (SD) and/or English learners (EL) assessed in NAEP mathematics with accommodations, by SD/EL category and type of accommodation: 2019

Type of accommodation	SD and/or EL	SD	EL
Bilingual dictionary	1.2	0.1	1.2
Braille	#	#	#
Breaks during test	1.3	1.2	0.1
Calculator version of the test	1.7	1.7	0.1
Cueing to stay on task	0.4	0.4	0.1
Directions only presented in Sign Language	#	#	#
Directions read aloud in English	0.4	0.3	0.1
Directions read aloud in Spanish	0.1	#	0.1
Directions translated into Spanish	#	#	#
Extended time	9.3	7.9	1.9
Hearing impaired version of test	0.1	0.1	#
High contrast for visually impaired	#	#	#
Large-print booklet	#	#	#
Low mobility version of test	#	#	#
Magnification equipment	#	#	#
Must be tested in separate session	1.1	1.1	0.1
One-on-one	0.1	0.1	#
Other	0.1	0.1	#
Preferential seating	1.8	1.8	0.1
Presentation in Sign Language	#	#	#
Read aloud (all)	0.7	0.6	0.1
Read aloud (occasional)	0.3	0.3	0.1
Responds orally to scribe	#	#	#
Response in Sign Language	#	#	#
School staff administers/Aide present	0.3	0.2	#
Small group	1.9	1.8	0.2
Special equipment	0.1	0.1	#
Use computer or typewriter to respond	0.1	0.1	#
Uses template	0.1	0.1	#

Rounds to zero.

NOTE: In 2019, the digitally based NAEP mathematics assessment at grade 12 was administered for the first time. The 2019 grade 12 mathematics results include results from students who took the digitally based assessment (DBA) and students who took the paper-based assessment (PBA). Students identified as both SD and EL were counted only once under the combined SD and/or EL category, but were counted separately under the SD and EL categories. SD includes students identified as having either an Individualized Education Program or protection under Section 504 of the Rehabilitation Act of 1973.

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Percentage of students assessed in twelfth-grade NAEP mathematics, by selected characteristics: 2005, 2015, and 2019

Characteristic	2005	2015	2019
Race/ethnicity			
White	66 *	55 *	52
Black	14	14	13
Hispanic	13 *	22 *	26
Asian/Pacific Islander	5	6	6
Asian	—	6	6
Native Hawaiian/Other Pacific Islander	—	#	#
American Indian/Alaska Native	1	1	1
Two or More Races	1 *	2 *	3
Gender			
Male	48 *	52	50
Female	52 *	48	50
Eligibility for National School Lunch Program			
Eligible	24 *	40	41
Not eligible	66 *	52	53
Information not available	10 *	8	6
Highest level of parental education			
Did not finish high school	8 *	9	9
Graduated from high school	18 *	17	16
Some education after high school	23 *	20 *	19
Graduated from college	47 *	49 *	51
Type of school			
Public	90 *	91	92
Private: Catholic	‡	4	‡
Charter school			
Charter	—	4	4
Public, noncharter	—	96	96
School location			
City	—	29	29
Suburb	—	41	40
Town	—	11	11
Rural	—	19	20
Region of the country			
Northeast	20 *	18	17
Midwest	23 *	21	21
South	34 *	36 *	38
West	23	25	24
Status as students with disabilities (SD)			
SD	7 *	9 *	11
Not SD	93 *	91 *	89
Status as English learners (EL)			
EL	4 *	4 *	4
Not EL	96 *	96 *	96

— Not available.

Rounds to zero.

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

* Significantly different ($p < .05$) from 2019.

NOTE: In 2019, the digitally based NAEP mathematics assessment at grade 12 was administered for the first time. The 2019 grade 12 mathematics results include results from students who took the digitally based assessment (DBA) and students who took the paper-based assessment (PBA). Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Prior to 2011, students in the "Two or More Races" category were categorized as "unclassified." For the National School Lunch Program (NSLP) eligibility category, results have been reported since 2003 when the quality of the data on students' eligibility for the program improved. Results are not shown for students who reported that they did not know the highest education level for either of their parents. SD includes students identified as having either an Individualized Education Program or protection under Section 504 of the Rehabilitation Act of 1973. The results for students with disabilities and English learners are based on students who were assessed and cannot be generalized to the total population of such students. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005, 2015, and 2019 Mathematics Assessments.

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Overall average scores and percentile scores in twelfth-grade NAEP mathematics: Various years, 2005–2019

Type of score	2005	2009	2013	2015	2019
Overall average score	150	153 *	153 *	152	150
10th percentile score	105	110 *	111 *	107 *	104
25th percentile score	127	130 *	131 *	128 *	125
50th percentile score	151	154 *	154 *	152	150
75th percentile score	174	177	177	175	175
90th percentile score	194 *	197	197	196	196

* Significantly different ($p < .05$) from 2019.

NOTE: In 2019, the digitally based NAEP reading assessment at grade 12 was administered for the first time. The 2019 grade 12 mathematics results include results from students who took the digitally based assessment (DBA) and students who took the paper-based assessment (PBA).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 2005–2019 Mathematics Assessments.

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Average scores and achievement-level results in NAEP mathematics for twelfth-grade students, by selected characteristics: Various years, 2005–2019

Characteristic	Average scale score					Percentage of students																			
						Below NAEP Basic					At or above NAEP Basic					At or above NAEP Proficient					At NAEP Advanced				
	2005	2009	2013	2015	2019	2005	2009	2013	2015	2019	2005	2009	2013	2015	2019	2005	2009	2013	2015	2019	2005	2009	2013	2015	2019
Race/ethnicity																									
White	157 *	161	162 *	160	159	30	25 *	25 *	27	29	70	75 *	75 *	73	71	29 *	33	33	32	32	3 *	3	3	3	4
Black	127	131	132 *	130	128	70	63	62 *	64	66	30	37	38 *	36	34	6	6	7	7	8	#	#	#	#	#
Hispanic	133 *	138	141 *	139	138	60	55	50 *	53	54	40	45	50 *	47	46	8 *	11	12	12	11	#	#	1	1	1
Asian/Pacific Islander	163 *	175	172	170	173	27	16	19	22	22	73	84	81	78	78	36 *	52	47	46	50	6 *	10	10	9	14
Asian	—	—	174	171	175	—	—	17	21	20	—	—	83	79	80	—	—	49	47	52	—	—	10	10	15
Native Hawaiian/Other Pacific Islander	—	—	151 *	‡	135	—	—	35 *	‡	61	—	—	65 *	‡	39	—	—	16	‡	16	—	—	1	‡	4
American Indian/Alaska Native	134	144	142	138	136	58	44	46	54	56	42	56	54	46	44	6	12	12	10	9	1	#	#	#	1
Two or More Races	142 *	158	155	157	157	41	29	33	33	33	59	71	67	67	67	19	28	26	31	31	1	4	2	4	4
Gender																									
Male	151	155 *	155 *	153	152	38	35 *	34 *	37	39	62	65 *	66 *	63	61	25	28	28	26	26	3	4	3	4	4
Female	149	152 *	152 *	150	149	40	37 *	36 *	39	41	60	63 *	64 *	61	59	21	24	24	23	23	1	2	2	2	2
Eligibility for National School Lunch Program																									
Eligible	132 *	137	139 *	137	136	61 *	55	52 *	54	57	39 *	45	48 *	46	43	8 *	10	11	11	11	#	#	#	1	1
Not eligible	155 *	160	162	160	160	34 *	28	26 *	28	29	66 *	72	74 *	72	71	27 *	32	34	32	33	3 *	3	4	4	5
Information not available	162	159	163	168 *	161	25	29	24	21	27	75	71	76	79	73	35	32	36	43	34	3	4	4	7	4
Highest level of parental education																									
Did not finish high school	130	135	137 *	133	133	65	59	55 *	59	60	35	41	45 *	41	40	7	8	9	7	9	#	#	#	#	1
Graduated from high school	138	142 *	139 *	139	136	54	49 *	51 *	54	55	46	51 *	49 *	46	45	12	14	12	12	11	#	1	#	1	#
Some education after high school	148	150 *	152 *	149	147	41	37 *	35 *	39	41	59	63 *	65 *	61	59	18	19	20	18	18	1	1	1	1	1
Graduated from college	161	164 *	164 *	163	161	26	24 *	23 *	25 *	28	74	76 *	77 *	75 *	72	34	38	38	37	36	4	5	5	5	5
Type of school																									
Public	149	152 *	152 *	150	149	41	37 *	36 *	40	42	59	63 *	64 *	60	58	22 *	25	25	23	24	2 *	3	2	2	3
Private: Catholic	‡	‡	‡	173	‡	‡	‡	‡	16	‡	‡	‡	‡	84	‡	‡	‡	‡	48	‡	‡	‡	‡	8	‡
Charter school																									
Charter	—	138	135	133	138	—	54	58	60	54	—	46	42	40	46	—	12	10	9	13	—	#	#	1	1
Public, noncharter	—	153 *	153 *	151	150	—	37 *	36 *	39	41	—	63 *	64 *	61	59	—	25	25	23	24	—	3	3	2	3
School location																									
City	—	152	149	148	149	—	39	41	43	43	—	61	59	57	57	—	25	22	22	24	—	4	3	2	3
Suburb	—	157	158 *	155	154	—	32 *	31 *	35	37	—	68 *	69 *	65	63	—	30	31	28	28	—	3	4	3	4
Town	—	151 *	151 *	150	147	—	38 *	37 *	39	43	—	62 *	63 *	61	57	—	22	22	21	20	—	1	1	2	2
Rural	—	151 *	153 *	152	148	—	37 *	34 *	38	42	—	63 *	66 *	62	58	—	21	24 *	23	20	—	1	2	2	1
Region of the country																									
Northeast	151	157	156	156	154	37	31 *	32 *	33	37	63	69 *	68 *	67	63	24	30	28	30	29	2	3	4	4	4
Midwest	157	157 *	157	157	153	31 *	31 *	31 *	32	36	69 *	69 *	69 *	68	64	28	30	30	30	27	3	3	3	4	3
South	146	149 *	152 *	148	147	45	40 *	37 *	42	44	55	60 *	63 *	58	56	19	21	23	20	21	2	2	2	2	2
West	148	152	151	149	150	41	39	39	42	40	59	61	61	58	60	22	25	25	22	24	3	4	2	2	4
Status as students with disabilities (SD)																									
SD	114 *	120	119	118	119	83 *	74	75	77	75	17 *	26	25	23	25	5	7	6	6	7	#	1	1	1	1
Not SD	153	156 *	157 *	155	154	36	33 *	31 *	34	36	64	67 *	69 *	66	64	24 *	28	28	26	27	2 *	3	3	3	3
Status as English learners (EL)																									
EL	120 *	117 *	109	115	111	74 *	80	86	79	85	26 *	20	14	21	15	3	4	3	6	3	#	#	#	#	1
Not EL	151	154 *	155 *	153	152	38	35 *	34 *	37	38	62	65 *	66 *	63	62	24	27	26	25	25	2 *	3	3	3	3

— Not available.

Rounds to zero.

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

* Significantly different ($p < .05$) from 2019.

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Percentage of twelfth-grade students in NAEP mathematics who reported enrollment in a mathematics course in grade 12, enrollment in AP mathematics courses, and enrollment in an online mathematics course for credit, by percentiles: 2019

	Percentage of students	
	Below 25th percentile	At or above 75th percentile
Coursetaking in mathematics		
Currently taking a mathematics course	18 *	11
Currently not taking a mathematics course	82 *	89
Enrolled in or have taken AP Calculus AB	4 *	33
Did not indicate taking AP Calculus AB	96 *	67
Enrolled in or have taken AP Calculus BC	2 *	14
Did not indicate taking AP Calculus BC	98 *	86
Enrolled in or have taken AP Statistics	3 *	22
Did not indicate taking AP Statistics	97 *	78
Taking online mathematics course for credit	66 *	85
Not taking online mathematics course for credit	34 *	15

* Significantly different ($p < .05$) from students performing at or above the 75th percentile.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2019 Mathematics Assessment.

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Percentage of twelfth-grade students in NAEP mathematics who reported the highest level of mathematics course taken, by percentiles: 2019

Highest level of mathematics course taken	Percentage of students	
	Below 25th percentile	At or above 75th percentile
Calculus	6 *	51
Pre-calculus	12 *	32
Trigonometry or algebra II	60 *	15
Geometry	15 *	#
Algebra I or less	8 *	1

Rounds to zero.

* Significantly different ($p < .05$) from students performing at or above the 75th percentile. Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2019 Mathematics Assessment.

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Percentage of twelfth-grade students in NAEP mathematics who reported the highest level of mathematics course taken, by percentiles: Various years, 2005–2019

Highest level of mathematics course taken	Percentage of students									
	Below 25th percentile					At or above 75th percentile				
	2005	2009	2013	2015	2019	2005	2009	2013	2015	2019
Calculus, pre-calculus, or trigonometry or algebra II	56 *	64 *	70 *	73 *	77	99	99	99 *	99 *	99
Geometry	23 *	23 *	20 *	19 *	15	1	1	#	#	#
Algebra I or less	21 *	13 *	11 *	8	8	1	# *	# *	# *	1

Rounds to zero.

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