

# 2019 Norms for MAP Growth Course-Specific Tests in Algebra 1, 2, and Geometry Overview

In August 2017, NWEA® released a suite of course-specific MAP® Growth™ mathematics tests. The purpose of these tests is to help districts, schools, teachers, and/or families understand how students are performing at a point in time and over the course of the year in a specific mathematics subject. NWEA offers several different course-specific math MAP Growth tests.

- Algebra 1
- Geometry
- Algebra 2
- Integrated Mathematics 1
- Integrated Mathematics 1 and 2
- Integrated Mathematics 2
- Integrated Mathematics 3

To provide additional context and better support interpretation of student scores compared with other students who have taken the same test, NWEA has accumulated sufficient test data to support user norms for a sub-set of these course-specific math tests.

User norms are now available for the Algebra 1, Geometry, and Algebra 2 tests, based on the first two years of test data. Although they are user norms and not nationally representative like the general MAP Growth norms, they provide contextual information about student performance in the fall, winter, and spring, and growth between fall and spring on these course-specific assessments.

In addition to the norms information in the MAP Growth reporting system, partners can utilize the course-specific user norms by leveraging the following tools.

- + Tables in .pdf format showing growth percentiles and fall-to-spring growth projections can be found at the back of this document
- + Tables in .xls (Excel) format showing the above as well as fall-to-spring growth percentiles can be accessed by [clicking here](#) and scrolling to the bottom of the page under the Course-Specific Math Norms section.

The full research report documenting the process used for developing these norms, is available [here](#) in the Help Center.

## Integrated math norms

The four additional course-specific mathematics tests, listed below, have insufficient numbers of students taking these assessments to support norms at this time, and there is no projected date by which there will be enough data. When enough test records accumulate for any of the tests, NWEA will develop the norms and notify partners.

- Integrated Mathematics 1
- Integrated Mathematics 1 and 2
- Integrated Mathematics 2
- Integrated Mathematics 3

## Differences between the course-specific math norms and the general MAP Growth norms

The first major difference between the course-specific math norms and the general MAP Growth norms is that the course-specific norms are not grade-specific. The reference group for each test's norms is the entire population of students who took the course-specific test. In contrast, the norms for MAP Growth Reading, Mathematics, Language Usage, and Science are grade-specific and adjusted for the number of instructional weeks configured by the partner. Any student who takes one of the three course-specific math tests will be compared to the students who took the same test during the same term during the 2017-18 and 2018-19 testing years.

The second major difference is that the course-specific norms are user norms, not nationally representative norms like the general norms. Nationally representative norms can be calculated when

- + the number of responses is very large;
- + the data set includes responses from all or most U.S. states;
- + the data set includes a distribution across urban, rural, suburban districts and schools;
- + the data set includes large and small districts and schools; and
- + the data set includes high and low socioeconomic groups.

For nationally representative norms, the sample is “sculpted” to mirror the national population of students as a whole. Such nationally representative norms permit comparisons of individual or group performance to students across the nation.

In the case of the course-specific user norms for Algebra 1, Geometry, and Algebra 2—student performance is compared to other students who took these assessments. The volumes and representation across the previously mentioned types of districts, schools, and test takers are not robust enough to support nationally representative norms.

The table below shows the ways in which the user norms for the course-specific math tests differ from the nationally representative norms used for the MAP Growth tests.

	<b>COURSE-SPECIFIC MATH NORMS</b>	<b>MAP GROWTH NORMS</b>
<b>Within-year growth norms</b>	Fall-to-spring	Fall-to-winter Winter-to-spring Fall-to-spring
<b>Between-year growth norms</b>	N/A	Fall-to-fall Winter-to-winter Spring-to-spring
<b>Achievement norms</b>	Fall, winter, spring norms that are not specific to a student's grade	Fall, winter, spring norms that are specific to a student's grade
<b>Instructional weeks</b>	Not adjusted for instructional weeks as configured by each partner	Adjusted for instructional weeks as configured by each partner
<b>School norms</b>	N/A	Available

## Recommendation for utilizing the course-specific math norms tables

In addition to the course-specific user norms information in the MAP Growth reporting system, partners can reference the tables included in this document or utilize the more comprehensive Excel tables which also include fall-to-spring growth percentiles. The Excel tables can be accessed by [clicking here](#) and scrolling to the bottom of the page under the Course-Specific Math Norms section.

## How to read the “Achievement and Fall-Spring Growth” tables

### To find the achievement percentile for a student for a specific term,

1. Find the appropriate Term column in the table (Fall, Winter, or Spring).
2. Find the student’s RIT score in that column.
3. Look at the leftmost column in that row, which shows the percentile.

### To find the growth projection from fall to spring for a student,

1. Find the student’s Fall RIT score in the Fall column.
2. Find the number in the column labeled “Mean.” This is the mean growth from fall to spring for students in the user base whose fall score was the same as your student’s. The Fall RIT score plus the value in the “Mean” column is the student’s growth projection. It shows the average amount of growth attained for a student who had a particular Fall RIT score.
3. Note the standard deviation for the gain provided in the rightmost column; it helps you understand the degree to which the gains of the user base were spread out around the mean. To compute growth that is one standard deviation above the growth projection (i.e. average), add the Fall RIT score, “Mean” gain score, and “SD” value. To compute growth that is one standard deviation below average, add the Fall RIT score to the “Mean” gain score, but subtract the “SD” value.

### EXAMPLE

If a fall score is 212 (12th percentile), the fall-spring growth projection is 6.9, which would be added to the 212 for the projected score (therefore, 219). With a standard deviation of 9.0, the range of projected scores would be 210 to 228.

**Achievement and Growth Norms for Algebra 1**

Percentile	TERM			FALL-SPRING COND. GROWTH	
	Fall	Winter	Spring	Mean	SD
1	194	195	194	5.9	9.0
2	198	199	200	6.1	9.0
3	201	202	203	6.2	9.0
4	203	205	205	6.4	9.0
5	205	206	207	6.4	9.0
6	206	208	209	6.5	9.0
7	207	209	211	6.6	9.0
8	208	211	212	6.7	9.0
9	209	212	213	6.7	9.0
10	210	213	214	6.8	9.0
11	211	214	215	6.8	9.0
12	212	215	216	6.9	9.0
13	213	215	217	6.9	9.0
14	214	216	218	6.9	9.0
15	214	217	219	7.0	9.0
16	215	218	220	7.0	9.0
17	216	218	221	7.0	9.0
18	216	219	221	7.1	9.0
19	217	220	222	7.1	9.0
20	217	220	223	7.1	9.0

Mean growth from fall to spring for students who scored 212 in the fall

See the complete growth and fall-spring growth tables on pages 5 to 7.

## How to read the “Fall-Spring Growth Percentiles” tables in .xls (Excel) file

To find the growth percentile for a student for a specific term, follow the instructions on the previous page.

To find the growth projection from fall to spring for a student, follow the instructions on the previous page.

To find the percentile associated with a student’s fall-to-spring growth, find a student’s Fall RIT score in the second column. Then, find the Spring RIT score in the second header row. The cell where the row and column intersect shows the student’s growth percentile.

### EXAMPLE

If a student’s fall score is 207 (7th percentile), and their spring score is 215 (11th percentile), the fall-spring growth of 8 RIT (215-207) equates to growth at the 56th percentile.

### Achievement and Growth Norms for Algebra 1

						Spring score													
						SPRING PERCENTILE AND SCORE													
TERM						FALL-SPRING COND. GROWTH		1	2	3	4	5	6	7	8	9	10	11	12
Percentile	Fall	Winter	Spring	Mean	SD	194	200	203	205	207	209	211	212	213	214	215	216		
1	194	195	194	5.9	9.0	28	50	64	74	81	86	89	92	94	95	96	97		
2	198	199	200	6.1	9.0	14	30	44	55	64	71	76	81	84	87	89	91		
3	201	202	203	6.2	9.0	8	20	32	42	51	59	65	71	75	79	82	85		
4	203	205	205	6.4	9.0	5	14	24	33	42	49	56	62	67	71	75	78		
5	205	206	207	6.4	9.0	3	10	18	26	34	41	48	54	59	64	68	72		
6	206	208	209	6.5	9.0	2	7	14	21	28	35	41	47	53	58	62	66		
7	207	209	211	6.6	9.0	2	6	11	17	23	30	36	41	47	52	56	61		
8	208	211	212	6.7	9.0	1	4	9	14	20	25	31	36	42	46	51	56		
9	209	212	213	6.7	9.0	1	3	7	11	16	22	27	32	37	42	46	51		
10	210	213	214	6.8	9.0	1	3	6	9	14	18	23	28	33	37	42	46		
11	211	214	215	6.8	9.0	1	2	5	8	12	16	20	25	29	34	38	42		
12	212	215	216	6.9	9.0	1	2	4	7	10	14	18	22	26	30	34	38		
13	213	215	217	6.9	9.0	1	1	3	5	8	12	15	19	23	27	31	35		
14	214	216	218	6.9	9.0	1	1	2	5	7	10	13	17	21	24	28	32		
15	214	217	219	7.0	9.0	1	1	2	4	6	9	12	15	18	22	25	29		

Fall score | Growth percentile

To download the complete norms table in Excel format, [click here](#) and scroll to the bottom of the page under the Course-Specific Math Norms section. Note that the file contains three tabs, one for each of the normed tests.

# Achievement and Growth Norms for Algebra 1

Percentile	TERM			FALL-SPRING COND. GROWTH	
	Fall	Winter	Spring	Mean	SD
1	194	195	194	5.9	9.0
2	198	199	200	6.1	9.0
3	201	202	203	6.2	9.0
4	203	205	205	6.4	9.0
5	205	206	207	6.4	9.0
6	206	208	209	6.5	9.0
7	207	209	211	6.6	9.0
8	208	211	212	6.7	9.0
9	209	212	213	6.7	9.0
10	210	213	214	6.8	9.0
11	211	214	215	6.8	9.0
12	212	215	216	6.9	9.0
13	213	215	217	6.9	9.0
14	214	216	218	6.9	9.0
15	214	217	219	7.0	9.0
16	215	218	220	7.0	9.0
17	216	218	221	7.0	9.0
18	216	219	221	7.1	9.0
19	217	220	222	7.1	9.0
20	217	220	223	7.1	9.0
21	218	221	223	7.2	9.0
22	219	222	224	7.2	9.0
23	219	222	225	7.2	9.0
24	220	223	225	7.3	9.0
25	220	223	226	7.3	9.0
26	221	224	227	7.3	9.0
27	221	224	227	7.3	9.0
28	222	225	228	7.4	9.0
29	222	225	228	7.4	9.0
30	223	226	229	7.4	9.0
31	223	226	229	7.4	9.0
32	223	227	230	7.5	9.0
33	224	227	230	7.5	9.0
34	224	228	231	7.5	9.0
35	225	228	231	7.5	9.0
36	225	229	232	7.6	9.0
37	226	229	232	7.6	9.0
38	226	230	233	7.6	9.0
39	226	230	233	7.6	9.0
40	227	231	234	7.6	9.0
41	227	231	234	7.7	9.0
42	228	232	235	7.7	9.0
43	228	232	235	7.7	9.0
44	229	232	236	7.7	9.0
45	229	233	236	7.7	9.0
46	229	233	237	7.8	9.0
47	230	234	237	7.8	9.0
48	230	234	238	7.8	9.0
49	231	235	238	7.8	9.0
50	231	235	239	7.9	9.0

Percentile	TERM			FALL-SPRING COND. GROWTH	
	Fall	Winter	Spring	Mean	SD
51	231	235	239	7.9	9.0
52	232	236	240	7.9	9.0
53	232	236	240	7.9	9.0
54	233	237	241	7.9	9.0
55	233	237	241	8.0	9.0
56	233	238	242	8.0	9.0
57	234	238	242	8.0	9.0
58	234	239	243	8.0	9.0
59	235	239	243	8.1	9.0
60	235	239	244	8.1	9.0
61	235	240	244	8.1	9.0
62	236	240	245	8.1	9.0
63	236	241	245	8.1	9.0
64	237	241	246	8.2	9.0
65	237	242	246	8.2	9.0
66	238	242	247	8.2	9.0
67	238	243	247	8.2	9.0
68	238	243	248	8.3	9.0
69	239	244	248	8.3	9.0
70	239	244	249	8.3	9.0
71	240	245	249	8.3	9.0
72	240	245	250	8.4	9.0
73	241	246	251	8.4	9.0
74	241	246	251	8.4	9.0
75	242	247	252	8.4	9.0
76	242	247	252	8.5	9.0
77	243	248	253	8.5	9.0
78	243	248	254	8.5	9.0
79	244	249	254	8.5	9.0
80	244	250	255	8.6	9.0
81	245	250	256	8.6	9.0
82	246	251	256	8.6	9.0
83	246	252	257	8.7	9.0
84	247	252	258	8.7	9.0
85	248	253	259	8.7	9.0
86	248	254	259	8.8	9.0
87	249	255	260	8.8	9.0
88	250	255	261	8.9	9.0
89	251	256	262	8.9	9.0
90	251	257	263	9.0	9.0
91	252	258	264	9.0	9.0
92	253	259	266	9.1	9.0
93	255	261	267	9.1	9.0
94	256	262	269	9.2	9.0
95	257	264	270	9.3	9.0
96	259	265	272	9.4	9.0
97	261	268	275	9.5	9.0
98	264	271	278	9.6	9.0
99	268	275	283	9.9	9.0

# Achievement and Growth Norms for Geometry

Percentile	TERM			FALL-SPRING COND. GROWTH	
	Fall	Winter	Spring	Mean	SD
1	199	200	199	4.7	8.0
2	203	204	204	5.2	8.0
3	206	207	208	5.5	8.0
4	208	209	210	5.7	8.0
5	209	211	212	5.8	8.0
6	211	213	214	6.0	8.0
7	212	214	215	6.1	8.0
8	213	215	217	6.2	8.0
9	214	216	218	6.3	8.0
10	215	217	219	6.4	8.0
11	216	218	220	6.5	8.0
12	216	219	221	6.6	8.0
13	217	220	222	6.7	8.0
14	218	221	223	6.8	8.0
15	219	221	224	6.8	8.0
16	219	222	224	6.9	8.0
17	220	223	225	7.0	8.0
18	221	223	226	7.0	8.0
19	221	224	227	7.1	8.0
20	222	225	227	7.1	8.0
21	222	225	228	7.2	8.0
22	223	226	229	7.3	8.0
23	223	226	229	7.3	8.0
24	224	227	230	7.4	8.0
25	224	227	230	7.4	8.0
26	225	228	231	7.5	8.0
27	225	229	232	7.5	8.0
28	226	229	232	7.6	8.0
29	226	230	233	7.6	8.0
30	227	230	233	7.7	8.0
31	227	230	234	7.7	8.0
32	227	231	234	7.8	8.0
33	228	231	235	7.8	8.0
34	228	232	235	7.8	8.0
35	229	232	236	7.9	8.0
36	229	233	236	7.9	8.0
37	230	233	237	8.0	8.0
38	230	234	237	8.0	8.0
39	230	234	238	8.1	8.0
40	231	235	238	8.1	8.0
41	231	235	239	8.1	8.0
42	232	235	239	8.2	8.0
43	232	236	240	8.2	8.0
44	232	236	240	8.3	8.0
45	233	237	241	8.3	8.0
46	233	237	241	8.4	8.0
47	234	238	242	8.4	8.0
48	234	238	242	8.4	8.0
49	234	238	243	8.5	8.0
50	235	239	243	8.5	8.0

Percentile	TERM			FALL-SPRING COND. GROWTH	
	Fall	Winter	Spring	Mean	SD
51	235	239	244	8.6	8.0
52	235	240	244	8.6	8.0
53	236	240	245	8.6	8.0
54	236	240	245	8.7	8.0
55	237	241	246	8.7	8.0
56	237	241	246	8.8	8.0
57	237	242	247	8.8	8.0
58	238	242	247	8.9	8.0
59	238	243	248	8.9	8.0
60	239	243	248	8.9	8.0
61	239	243	249	9.0	8.0
62	239	244	249	9.0	8.0
63	240	244	250	9.1	8.0
64	240	245	250	9.1	8.0
65	241	245	251	9.1	8.0
66	241	246	251	9.2	8.0
67	242	246	252	9.2	8.0
68	242	247	252	9.3	8.0
69	242	247	253	9.3	8.0
70	243	248	253	9.4	8.0
71	243	248	254	9.4	8.0
72	244	249	254	9.5	8.0
73	244	249	255	9.5	8.0
74	245	250	255	9.6	8.0
75	245	250	256	9.6	8.0
76	246	251	257	9.7	8.0
77	246	251	257	9.7	8.0
78	247	252	258	9.8	8.0
79	247	252	259	9.8	8.0
80	248	253	259	9.9	8.0
81	248	253	260	10.0	8.0
82	249	254	261	10.0	8.0
83	250	255	261	10.1	8.0
84	250	255	262	10.1	8.0
85	251	256	263	10.2	8.0
86	251	257	264	10.3	8.0
87	252	258	265	10.4	8.0
88	253	258	265	10.4	8.0
89	254	259	266	10.5	8.0
90	255	260	268	10.6	8.0
91	256	261	269	10.7	8.0
92	257	262	270	10.8	8.0
93	258	263	271	10.9	8.0
94	259	265	273	11.1	8.0
95	260	266	274	11.2	8.0
96	262	268	276	11.4	8.0
97	264	270	279	11.6	8.0
98	267	273	282	11.9	8.0
99	271	278	287	12.3	8.0

## Achievement and Growth Norms for Algebra 2

Percentile	TERM			FALL-SPRING COND. GROWTH	
	Fall	Winter	Spring	Mean	SD
1	203	203	203	5.0	8.4
2	207	208	208	5.1	8.4
3	210	211	212	5.1	8.4
4	212	213	214	5.2	8.4
5	214	215	216	5.2	8.4
6	215	217	218	5.2	8.4
7	217	218	219	5.2	8.4
8	218	219	220	5.3	8.4
9	219	221	222	5.3	8.4
10	220	222	223	5.3	8.4
11	221	223	224	5.3	8.4
12	222	224	225	5.3	8.4
13	222	224	226	5.3	8.4
14	223	225	226	5.4	8.4
15	224	226	227	5.4	8.4
16	225	227	228	5.4	8.4
17	225	227	229	5.4	8.4
18	226	228	229	5.4	8.4
19	226	229	230	5.4	8.4
20	227	229	231	5.4	8.4
21	228	230	231	5.4	8.4
22	228	231	232	5.5	8.4
23	229	231	233	5.5	8.4
24	229	232	233	5.5	8.4
25	230	232	234	5.5	8.4
26	230	233	235	5.5	8.4
27	231	233	235	5.5	8.4
28	231	234	236	5.5	8.4
29	232	234	236	5.5	8.4
30	232	235	237	5.5	8.4
31	233	235	237	5.5	8.4
32	233	236	238	5.6	8.4
33	234	236	238	5.6	8.4
34	234	237	239	5.6	8.4
35	235	237	239	5.6	8.4
36	235	238	240	5.6	8.4
37	235	238	240	5.6	8.4
38	236	239	241	5.6	8.4
39	236	239	241	5.6	8.4
40	237	240	242	5.6	8.4
41	237	240	242	5.6	8.4
42	238	241	243	5.6	8.4
43	238	241	243	5.6	8.4
44	238	242	244	5.7	8.4
45	239	242	244	5.7	8.4
46	239	242	245	5.7	8.4
47	240	243	245	5.7	8.4
48	240	243	246	5.7	8.4
49	240	244	246	5.7	8.4
50	241	244	246	5.7	8.4

Percentile	TERM			FALL-SPRING COND. GROWTH	
	Fall	Winter	Spring	Mean	SD
51	241	245	247	5.7	8.4
52	242	245	247	5.7	8.4
53	242	246	248	5.7	8.4
54	242	246	248	5.7	8.4
55	243	246	249	5.7	8.4
56	243	247	249	5.7	8.4
57	244	247	250	5.8	8.4
58	244	248	250	5.8	8.4
59	244	248	251	5.8	8.4
60	245	249	251	5.8	8.4
61	245	249	252	5.8	8.4
62	246	250	252	5.8	8.4
63	246	250	253	5.8	8.4
64	247	251	253	5.8	8.4
65	247	251	254	5.8	8.4
66	248	251	254	5.8	8.4
67	248	252	255	5.8	8.4
68	248	252	255	5.8	8.4
69	249	253	256	5.9	8.4
70	249	253	256	5.9	8.4
71	250	254	257	5.9	8.4
72	250	254	257	5.9	8.4
73	251	255	258	5.9	8.4
74	251	256	258	5.9	8.4
75	252	256	259	5.9	8.4
76	252	257	260	5.9	8.4
77	253	257	260	5.9	8.4
78	253	258	261	5.9	8.4
79	254	258	261	6.0	8.4
80	254	259	262	6.0	8.4
81	255	260	263	6.0	8.4
82	256	260	264	6.0	8.4
83	256	261	264	6.0	8.4
84	257	262	265	6.0	8.4
85	258	262	266	6.0	8.4
86	258	263	267	6.0	8.4
87	259	264	267	6.1	8.4
88	260	265	268	6.1	8.4
89	261	266	269	6.1	8.4
90	262	267	270	6.1	8.4
91	263	268	271	6.1	8.4
92	264	269	273	6.1	8.4
93	265	270	274	6.2	8.4
94	266	272	275	6.2	8.4
95	268	273	277	6.2	8.4
96	269	275	279	6.2	8.4
97	271	277	281	6.3	8.4
98	274	280	285	6.3	8.4
99	279	285	290	6.4	8.4



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