Release of Spring 2021 MCAS Test Information

from the

Legacy High School ELA and Math Tests

June 2021
Massachusetts Department of Elementary and Secondary Education

MASSACHUSETTS DEPARTMENT OF
ELEMENTARY AND SECONDARY
EDUCATION

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I. Document Purpose and Structure

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Purpose

During the spring 2021 MCAS administration for high school English Language Arts (ELA) and Mathematics, schools were given the option to administer either next-generation tests or legacy tests to students in grades 11 and 12. The purpose of this document is to share with educators and the public information regarding the legacy tests in ELA and Mathematics, including the reporting category and standard associated with each item. In order to support future test development, items from the legacy tests are not being released. Items from the spring 2021 next-generation tests in ELA and Mathematics are being released and are presented in separate publications, found at www.doe.mass.edu/mcas/release.html?yr=2021.

Structure

Chapters II and III of this document contain, respectively, information for the spring 2021 legacy high school ELA and Mathematics tests. Each of these chapters has two sections.

The **first section** lists the Massachusetts curriculum framework learning standards assessed by MCAS in that chapter's content area, as well as the MCAS reporting categories under which test results are reported to schools and districts. The first section also provides the web address for the relevant framework. In addition, there is a brief overview of the test (number of sessions, types of items, reference materials allowed, and in Chapter III, information about the Spanish-language edition of the Mathematics test). The Mathematics Reference Sheet used by students during MCAS Mathematics test sessions appears at the end of the first section of the Mathematics chapter.

The **second section** of each chapter is a table that cross-references each item with its MCAS reporting category and with the framework standard it assesses. The table shows how the items on the test align to reporting categories and standards in the 2011 frameworks. Alignments with standards in the 2000/2001 frameworks and 2017 frameworks are also shown for reference purposes.

II. Legacy English Language Arts Test

A. Composition
B. Reading Comprehension

Legacy English Language Arts Test

The legacy ELA test was aligned to the 2011 *Massachusetts Curriculum Framework for English Language Arts and Literacy* and was reported out on the 2011 MCAS ELA reporting categories: Reading, Language, and Composition (Writing). Alignment to the 2001 and 2017 standards is provided in the table at the end of this chapter for reference purposes.

The legacy ELA test was presented in the following two parts:

- the ELA Composition test, which used a writing prompt to assess learning standards from the **Writing** strand in the 2011 *Framework*
- the ELA Reading Comprehension test, which used multiple-choice and open-response questions (items) to assess learning standards from the **Reading** and **Language** strands in the 2011 *Framework*

The 2011 *Framework* is available on the Department website at www.doe.mass.edu/frameworks/archive.html.

A. Composition

The 2021 ELA Composition test was based on learning standards in the grades 6–12 **Writing** strand of the 2011 *Framework*.

Each grade 10 ELA writing prompt requires students to write a literary analysis (coded to standard 1 in the grades 6–12 **Writing** strand in the 2011 *Framework*). All grade 10 writing prompts also assess standards 4 and 5 in the grades 6–12 **Writing** strand.

ELA Composition test results are reported under the reporting categories **Composition: Topic Development** and **Composition: Standard English Conventions**.

Test Sessions and Content Overview

The ELA Composition test included two separate test sessions, administered on the same day with a short break between sessions. During the first session, each student wrote an initial draft of a composition in response to the writing prompt. During the second session, each student revised their draft and submitted a final composition, which was scored in the areas of Topic Development and Standard English Conventions. The Scoring Guides for the MCAS English Language Arts Composition are available at www.doe.mass.edu/mcas/student/elacomp_scoreguide.html.

Reference Materials

At least one English-language dictionary per classroom was provided for student use during ELA Composition test sessions. The use of bilingual word-to-word dictionaries was allowed for current and former English learner (EL) students only. No other reference materials were allowed during either ELA Composition test session.

B. Reading Comprehension

The ELA Reading Comprehension test was based on grades 6–12 learning standards in the content strands of the 2011 *Framework* listed below.

- Reading
- Language

ELA Reading Comprehension test results are reported under two MCAS reporting categories, **Reading** and **Language**, which are identical to the two framework content strands listed above.

The table on the next page indicates each item's reporting category and the standard to which the item is aligned.

Test Sessions and Content Overview

The ELA Reading Comprehension test included three separate test sessions. Sessions 1 and 2 were both administered on the same day, and Session 3 was administered on the following day. Each session included reading passages, followed by multiple-choice and open-response questions.

Reference Materials

During all three ELA Reading Comprehension sessions, the use of bilingual word-to-word dictionaries was allowed for current and former EL students only. No other reference materials were allowed during any ELA Reading Comprehension test session.

English Language Arts
Legacy Reading Comprehension Test
Spring 2021 Items:
Reporting Categories and Standards

Item No.	Reporting Category[1]	2011 and 2017[2] Standard		2001 Standard[2]
1	*Reading*	7		13
2	*Reading*	4		15
3	*Reading*	5		13
4	*Reading*	1		13
5	*Reading*	1		13
6	*Reading*	5		13
7	*Reading*	2		13
8	*Language*	4		4
9	*Reading*	2		13
10	*Reading*	3		14
11	*Reading*	1		14
12	*Reading*	6		14
13	*Language*	5		4
14	*Reading*	3		12
15	*Reading*	3		12
16	*Reading*	3		12
17	*Reading*	2		12
18	*Reading*	3		12
19	*Reading*	2		12
20	*Reading*	4		15
21	*Language*	4		4
22	*Reading*	3		12
23	*Reading*	4		12
24	*Reading*	1		12
25	*Reading*	6		12
26	*Reading*	5		5
27	*Reading*	2		12
28	*Reading*	6		13
29	*Reading*	6		13
30	*Reading*	1		13
31	*Reading*	2		13
32	*Reading*	1		13
33	*Reading*	5		13
34	*Language*	4		4
35	*Language*	5		4
36	*Reading*	6		13
37	*Reading*	5		15
38	*Reading*	3		16
39	*Reading*	5		15
40	*Reading*	2		16

[1] The Reporting Category column refers to the 2011 *Massachusetts Curriculum Framework for English Language Arts and Literacy*.

[2] The Department is providing the 2017 and 2001 standards for reference purposes.

III. Legacy Mathematics Test

Legacy Mathematics Test

The legacy Mathematics test was aligned to the 2011 *Massachusetts Curriculum Framework for Mathematics* and was reported out on the 2011 MCAS Mathematics reporting categories listed below.

- Number and Quantity
- Algebra and Functions
- Geometry
- Statistics and Probability

The table at the end of this chapter indicates each item's reporting category and the standard to which the item is aligned. Alignment to the 2000 and 2017 standards is provided in the table for reference purposes. Because of the change in standards from 2000 to 2017, questions on the legacy test were aligned to standards at the high school level and the middle school level.

The 2011 *Curriculum Framework for Mathematics* is available on the Department website at www.doe.mass.edu/frameworks/archive.html. More information and a list of standards assessable on the Mathematics test are available at www.doe.mass.edu/mcas/tdd/math.html?section=testdesign.

Test Sessions and Content Overview

The Mathematics test included two separate test sessions, which were administered on consecutive days. Each session included multiple-choice and open-response items. Session 1 also included short-answer items.

Spanish-Language Edition

Since approximately 54% of EL students in Massachusetts public schools are native Spanish speakers, a Spanish-language edition of the Mathematics test was made available to eligible Spanish-speaking students. Student test booklets for the Spanish-language edition were issued in side-by-side English/Spanish format: pages on the left side of each booklet presented items in Spanish; pages on the right side presented the same items in English.

Reference Materials and Tools

Each student taking the Mathematics test was provided with a grade 10 Mathematics Reference Sheet. A copy of the reference sheet appears on the following page.

During Session 2, each student had sole access to a calculator with at least four functions and a square root key. Calculator use was not allowed during Session 1.

During both Mathematics test sessions, the use of bilingual word-to-word dictionaries was allowed for current and former EL students only. No other reference tools or materials were allowed.

MASSACHUSETTS DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION

Massachusetts Comprehensive Assessment System
Grade 10 Mathematics Reference Sheet

AREA FORMULAS

square ..... $A = s^2$

rectangle ..... $A = bh$

parallelogram ..... $A = bh$

triangle ..... $A = \frac{1}{2}bh$

trapezoid ..... $A = \frac{1}{2}h(b_1 + b_2)$

circle ..... $A = \pi r^2$

LATERAL SURFACE AREA FORMULAS

right rectangular prism ..... $LA = 2(hw) + 2(lh)$

right circular cylinder ..... $LA = 2\pi rh$

right circular cone ..... $LA = \pi r\ell$
(ℓ = slant height)

right square pyramid ..... $LA = 2s\ell$
(ℓ = slant height)

TOTAL SURFACE AREA FORMULAS

cube ..... $SA = 6s^2$

right rectangular prism ..... $SA = 2(lw) + 2(hw) + 2(lh)$

sphere ..... $SA = 4\pi r^2$

right circular cylinder ..... $SA = 2\pi r^2 + 2\pi rh$

right circular cone ..... $SA = \pi r^2 + \pi r\ell$
(ℓ = slant height)

right square pyramid ..... $SA = s^2 + 2s\ell$
(ℓ = slant height)

VOLUME FORMULAS

cube ..... $V = s^3$
(s = length of an edge)

right rectangular prism ..... $V = lwh$

OR

$V = Bh$
(B = area of a base)

sphere ..... $V = \frac{4}{3}\pi r^3$

right circular cylinder ..... $V = \pi r^2 h$

right circular cone ..... $V = \frac{1}{3}\pi r^2 h$

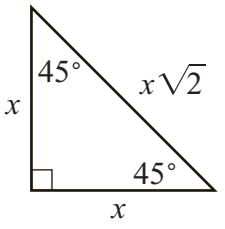
right square pyramid ..... $V = \frac{1}{3}s^2 h$

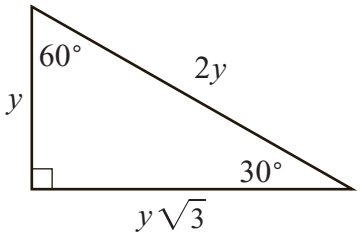
CIRCLE FORMULAS

$C = 2\pi r$

$A = \pi r^2$

SPECIAL RIGHT TRIANGLES





Legacy Mathematics Test
Spring 2021 Items:
Reporting Categories and Standards

Item No.	Reporting Category[1]	2011 and 2017[2] Standard		2000 Standard[2]
1	*Algebra and Functions*	F-BF.2		10.P.1
2	*Number and Quantity*	7.EE.3		10.N.2
3	*Statistics and Probability*	S-ID.2		10.D.1
4	*Statistics and Probability*	S-ID.6		10.D.2
5	*Algebra and Functions*	A-APR.1		10.P.3
6	*Number and Quantity*	8.NS.2		10.N.3
7	*Number and Quantity*	7.EE.3		10.N.4
8	*Algebra and Functions*	A-REI.4		10.P.5
9	*Number and Quantity*	7.NS.3		10.N.1
10	*Geometry*	8.G.5		10.G.5
11	*Number and Quantity*	7.EE.3		10.N.4
12	*Statistics and Probability*	S-ID.1		10.D.1
13	*Geometry*	7.G.6		10.M.1
14	*Geometry*	G-C.2		10.G.3
15	*Geometry*	7.G.6		10.M.2
16	*Algebra and Functions*	F-BF.2		10.P.1
17	*Number and Quantity*	7.NS.3		10.N.2
18	*Statistics and Probability*	S-ID.6		10.D.2
19	*Number and Quantity*	7.EE.3		10.N.4
20	*Algebra and Functions*	F-LE.2		10.P.7
21	*Statistics and Probability*	S-ID.6		10.D.1
22	*Geometry*	7.G.6		10.M.2
23	*Number and Quantity*	7.EE.3		10.N.1
24	*Statistics and Probability*	6.SP.4		10.D.1
25	*Algebra and Functions*	A-CED.3		10.P.8
26	*Geometry*	G-SRT.6		10.G.6
27	*Statistics and Probability*	S-ID.6		10.D.1
28	*Geometry*	7.G.4		10.M.1
29	*Algebra and Functions*	A-CED.1		10.P.7
30	*Statistics and Probability*	S-ID.1		10.D.1
31	*Number and Quantity*	7.NS.3		10.N.1
32	*Algebra and Functions*	A-CED.1		10.P.7
33	*Algebra and Functions*	A-REI.12		10.P.6
34	*Geometry*	G-GPE.7		10.G.7
35	*Algebra and Functions*	8.F.4		10.P.2
36	*Geometry*	7.G.4		10.M.3
37	*Algebra and Functions*	A-CED.1		10.P.7
38	*Number and Quantity*	N-Q.3		10.M.4
39	*Geometry*	G-CO.5		10.G.9
40	*Statistics and Probability*	6.SP.4		10.D.1
41	*Algebra and Functions*	F-IF.4		10.P.2
42	*Geometry*	7.G.3		10.G.10

[1] The Reporting Category column refers to the 2011 *Massachusetts Curriculum Framework for Mathematics*.

[2] The Department is providing the 2017 and 2000 standards for reference purposes.