

2022 GRADE 8 RICAS MATHEMATICS ASSESSMENT FACT SHEET

RICAS TESTING SESSIONS

- There are two sessions in the grade 8 mathematics test.
- There is a non-calculator and a calculator session.
- Each session has a suggested length of 90 minutes.
- All students are eligible for extended time.

RICAS ITEM TYPES

- **Multiple Choice:** Students select one correct answer from several answer options. Items are worth 1 point and are machine-scored.
- **Multiple Select:** Students select more than one correct answer from among several answer options. Items are worth 1 point and are machine-scored.
- **Short Answer/Fill-in-the-Blank:** Students construct a short written response, typically only a word or number. Items are worth 1 point and are machine-scored.
- **Technology Enhanced:** Students answer questions using technology such as drag-and-drop or hot spots (on the computer-based test only). Items are worth 1 or 2 points and are machine-scored.
- **Constructed Response:** Students write a response to a multi-part item that includes calculations and explanations to a problem or set of problems. Items are worth 4 points and are hand-scored with a rubric.

RICAS TEST DESIGN

The grade 8 test includes both common and matrix questions. Common questions count towards a student's score, while matrix questions consist of both field-test and equating questions and do not count towards a student's score. The table below provides information about the number and point values of common questions on the grade 8 test.

| Number of 1-Point Questions | Number of 2-Point Questions | Number of 4-Point Constructed Response Questions | Total Number of Questions | Total Number of Points |
|-----------------------------|-----------------------------|--|---------------------------|------------------------|
| 34 | 2 | 4 | 40 | 54 |

*Students in grade 8 will also answer four additional 1- or 2-point matrix questions and two additional constructed response matrix questions.

RICAS REPORTING CATEGORIES AND PERCENTAGE OF POINTS

The reporting structure is based on the domains of the [Rhode Island Core Standards](#) for an individual grade. The percentage of points for the grade 8 domains are displayed in the table below.

| Reporting Category Grade 8 | 2018 Percentage (+/-5%) |
|---|--------------------------------|
| The Number System & Expressions and Equations | 40% |
| Functions | 20% |
| Geometry | 30% |
| Statistics and Probability | 10% |

RICAS TESTING PLATFORM

The RICAS assessment will be administered through the Pearson TestNav8 platform. All students will take the computer-based version of the assessment unless a student receives an accommodation for a paper form of the assessment. The testing platform will provide a grade 8 student with embedded tools and features including an eighth inch ruler, centimeter ruler, pointer highlighter, answer eliminator, magnifier, and line reader. Students will be able to bookmark and review their work as they progress through the assessment. RIDE has created a document outlining the [technology skills](#) students should have for RICAS.

RICAS STUDENT TESTING RESOURCES

All grade 8 students will have access to a scientific calculator, a TI84 CE graphing calculator, and a Desmos graphing calculator (on the calculator session of the test) and a standard mathematics reference sheet (see below) through the Test Nav8 platform. Eligible students with disabilities may have access to a calculator (on the non-calculator session of the test) and/or a supplemental reference sheet. For resources and information about mathematics accommodations for English language learners and students with disabilities, please visit the [Assessment Accommodations](#) page of the RIDE website.

RICAS TUTORIALS, PRACTICE TESTS, AND RELEASED ITEMS

The [RICAS Resource Center](#), administered by Pearson, is a site through which educators can access the Test Administration Manuals, Student Tutorials, Practice Tests, etc. Selected resources may be linked to the MCAS website and contain the MCAS branding

Computer-scored released items can be accessed via the [RICAS Resource Center or the RICAS Digital Item Library](#). Paper-based items can be found on the [RIDE website](#) or through the [RICAS Resource Center](#). Scoring rubrics and student work for the constructed response released items are available via the [Question Directory for Student Work](#) on the Massachusetts Department of Education website. [Directions](#) for using the online tool are provided.

RICAS Grade 8 Standard Mathematics Reference Sheet

CONVERSIONS

1 cup = 8 fluid ounces

1 pint = 2 cups

1 quart = 2 pints

1 gallon = 4 quarts

1 gallon = 3.785 liters

1 liter = 0.264 gallon

1 liter = 1000 cubic centimeters

1 inch = 2.54 centimeters

1 meter = 39.37 inches

1 mile = 5280 feet

1 mile = 1760 yards

1 mile = 1.609 kilometers

1 kilometer = 0.62 mile

1 pound = 16 ounces

1 pound = 0.454 kilogram

1 kilogram = 2.2 pounds

1 ton = 2000 pounds

AREA (A) FORMULAS

square $A = s^2$

rectangle $A = bh$

OR

$A = lw$

parallelogram $A = bh$

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

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

circle $A = \pi r^2$

CIRCLE FORMULAS

area $A = \pi r^2$

circumference $C = 2\pi r$

OR

$C = \pi d$

VOLUME (V) FORMULAS

cube $V = s^3$

(s = length of an edge)

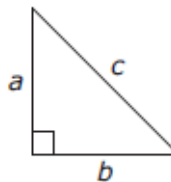
sphere $V = \frac{4}{3}\pi r^3$

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

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

right prism $V = Bh$

PYTHAGOREAN THEOREM



$$a^2 + b^2 = c^2$$