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Quick Review

Engaging Format
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Increased Rigor

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We make teaching easier®

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Your ECS Team

p.s. It’s easy to share your story! Visit our Re:Think blog at ecslearningsystems.com/blog and click the Re:Tell button.

Table of Contents


SSI Plan .................................................................8 Daily SSI Lesson Plan .................................9 Daily SSI Planning Form .............................10 Master Skills List .........................................11 Correlation Charts .......................................14 Answer Key ...................................................18

ECS Learning Systems, Inc. • P. O. Box 440 • Bulverde, TX 78163-0440 ecslearningsystems.com 1.800.688.3224 (t) • 1.877.688.3226 (f) • customercare@ecslearningsystems.com
What’s inside STAAR MASTER® Quick Review for Math?

This STAAR MASTER® Quick Review for Math includes more than 220 grade-specific practice items that reflect the content of the STAAR®-eligible TEKS for Mathematics.

The Teacher Guide includes the following information—

- an overview of STAAR MASTER Quick Review for Math and key characteristics of the State of Texas Assessments of Academic Readiness (STAAR) for Mathematics
- an explanation of Quick Review’s organization by reporting category and standard(s)
- explanations of both rigor and complexity levels as they apply to Quick Review
- an explanation of Webb’s “depth-of-knowledge” model as it relates to complexity levels used in Quick Review
- suggestions for using Quick Review in the classroom, at home, in tutorials/remedial classes/summer school, and in SSI classes
- correlation charts indicating the specific standard(s) addressed in each practice item
- a complete answer key

The STAAR MASTER Quick Review for Math, Grade 7, provides practice and review material for the mathematics portion of the STAAR. In particular, the book includes the following information—

- more than 220 practice items focusing on the grade-specific content of the STAAR-eligible TEKS for Mathematics
- practice items reflecting the kind of problems students might encounter on the actual STAAR
- a real-world context for practice items whenever possible, covering a broad range of topics and ideas of interest to students
- “skills tags” (labels) to identify the TEKS standard(s) addressed in each practice item
- multiple practice items to address each standard/expectation, providing repeated practice in a variety of contexts
- selected practice items with “griddable responses,” reflecting the format used on the actual STAAR
- mathematics reference chart

Mathematical Process Standards: The Mathematical Process Standards are not tested in isolation, nor do they appear in a separate reporting category. Rather, these standards are incorporated into practice items based on content standards from the four reporting categories. Practice items require students to demonstrate understanding of these important mathematical processes within the context of each problem.

Skills Tags: Each practice item includes a “skills tag” (Figure 1) for easy identification of the TEKS-based standard addressed in that item.

![Figure 1](image-url)
Descriptions of STAAR MASTER® Complexity Levels

The following descriptions provide an overview of the three complexity levels used to align the STAAR MASTER® Quick Review items to the STAAR®-eligible TEKS. Each explanation details the kinds of activities that occur within each level. However, they do not represent all of the possible thought processes for each level.

Low Complexity (L)

Low-complexity items align with the TEKS at Level 1 of the Webb (2002a) model. Items of low complexity involve recall and reproduction. Activities and problems at this level require routine, single-step methods. An item may ask students to recognize or restate a fact, definition, or term. For example, students may need to identify attributes of a geometric figure. Items of this complexity may require students to follow a basic procedure with clearly defined steps. At this cognitive level, students may need to apply a formula or perform a simple algorithm. Some major concepts represented at this level include arithmetic facts, perimeter, and converting units of measure. A low-complexity item may ask students to identify, recognize, use, or measure information and concepts.

Moderate Complexity (M)

Moderate-complexity items align with the TEKS at Level 2 of the Webb model. Items of moderate complexity involve both comprehension and the subsequent processing of information. Activities at this level demand more than one step in the reasoning process. Students are asked to determine how to best solve the problem. An item may ask students to generate a table of paired numbers based on a real-life situation. Items may involve using a model to solve a problem. At this cognitive level, students will need to visualize for tasks such as extending patterns and determining nonexamples. Items may involve interpreting information from a simple graph, table, or diagram. Some major concepts represented at this level include classifying geometric figures, determining probability, and using strategies to estimate. Items of this complexity may ask students to classify, organize, observe, collect, display, or compare data. Some items also require students to apply low-complexity skills and concepts.

High Complexity (H)

High-complexity items align with the TEKS at Level 3 and/or Level 4 of the Webb model*. Items of high complexity require students to use strategic, multi-step thinking; develop a deeper understanding of the information; and extend thinking. The problems at this level are non-routine and more abstract. Students are asked to demonstrate more flexible thinking, apply prior knowledge, make and test conjectures, and support their responses. High-complexity items may require students to make generalizations from patterns. Items may involve interpreting information from a complex graph, table, or diagram. At this cognitive level, students will need to justify the reasonableness of a solution process when more than one solution exists. Students will use concepts to solve and explain problems, such as how changes in dimensions affect the volume of a figure. A high-complexity item may ask students to plan, reason, explain, compare, differentiate, draw conclusions, cite evidence, analyze, synthesize, apply, or prove. Some items also require students to apply low- and/or moderate-complexity skills and concepts.

*Note: Although state standards may include expectations that require extended thinking, many large-scale assessment activities are not classified as Level 4. Performance and open-ended assessments may require activities at Level 4.
Organization of Quick Review for Math

The STAAR MASTER® Quick Review for Math uses a practical, user-friendly layout designed to streamline its use in a classroom, home, tutorial, or other setting.

<table>
<thead>
<tr>
<th>Reporting Category</th>
<th>Each Quick Review for Math is organized into four reporting categories. These reporting categories are dictated by the STAAR®-eligible TEKS for each grade.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week</td>
<td>Each reporting category is divided into three weeks. (However, the length of time required to complete items is best decided by the teacher.)</td>
</tr>
<tr>
<td>Day</td>
<td>Each week is then divided into five days—one “school week.” (Again, the teacher can use items at his or her own pace.)</td>
</tr>
</tbody>
</table>

The organization of reporting categories, weeks, and days is best represented by the diagram to the right, which provides an example for Reporting Category 1.

If you refer to the correlation charts on pages 14–17 of this teacher guide, you will notice “clustering” of items, depending on the week. Within each reporting category, Week 1 generally focuses on the first half of that reporting category’s standards, while Week 2 generally focuses on the second half of that reporting category’s standards. Finally, Week 3 provides a review “across the board,” offering mixed practice for the standards in that reporting category.
Answer Key

Reporting Category 1

Week 1, Day 1
1. 2. 3.

Week 1, Day 2
1. 2. 3.

Week 1, Day 3
1. 2. 3.

Week 1, Day 4
1. 2. 3.

Week 1, Day 5
1. 2. 3. 4.

Week 2, Day 1
1. 2. 3.

Week 2, Day 2
1. 2. 3.

Week 2, Day 3
1. 2. 3.

Week 2, Day 4
1. 2. 3.

Week 2, Day 5
1. 2. 3.

Week 3, Day 1
1. 2. 3.

Week 3, Day 2
1. 2. 3.

Week 3, Day 3
1. 2.

Week 3, Day 4
1. 2. 3.

Week 3, Day 5
1. 2. 3.

Reporting Category 2

Week 1, Day 1
1. 2. 3. 4.

Week 1, Day 2
1. 2. 3.

Week 1, Day 3
1. 2. 3.

Week 1, Day 4
1. 2. 3.

Week 1, Day 5
1. 2. 3. 4.

Week 2, Day 1
1. 2. 3.

Week 2, Day 2
1. 2. 3.

Week 2, Day 3
1. 2. 3.

Week 2, Day 4
1. 2. 3.

Week 2, Day 5
1. 2. 3.

Week 3, Day 1
1. 2. 3.

Week 3, Day 2
1. 2. 3.

Week 3, Day 3
1. 2. 3.

Week 3, Day 4
1. 2. 3.

Week 3, Day 5
1. 2. 3. 4.
Table of Contents

Reporting Category 1 .................................................. 3
Probability and Numerical Representations

Reporting Category 2 .................................................. 33
Computations and Algebraic Relationships

Reporting Category 3 .................................................. 65
Geometry and Measurement

Reporting Category 4 .................................................. 97
Data Analysis and Personal Financial Literacy

Math Reference Chart .................................................. 128
7.60 (M)
2. A math teacher gave each student in his classes a pair of standard dice. The students each rolled the dice once and recorded their results. How many of his 144 students should the teacher have expected to roll a multiple of 4?

Record your answer in the boxes. Then fill in the bubbles. Be sure to use the correct place value.

7.61 (M)
3. Shane has the two game spinners shown below.

If he spins each once, what is the probability that both spinners will land on 2?

A \( \frac{1}{9} \)
B \( \frac{1}{6} \)
C \( \frac{1}{3} \)
D \( \frac{2}{3} \)
Use the following information to answer questions 1 and 2.

Dmitri has the 12 cards shown below.

A  I  E  E
E  U  A  I
O  A  E  O

After shuffling the cards, he turns them face down on a table. He randomly selects one card, looks at the letter, and returns the card face down to the table.

7.6H (M)
1. Selecting the letter A is less likely than selecting the letter—
   - A
   - E
   - B
   - I
   - C
   - O
   - D
   - U

7.6H (M)
2. Selecting the letter I is equally as likely as selecting the letter—
   - A
   - A
   - B
   - E
   - C
   - O
   - D
   - U
7.3B (M)

1. Frank owns \(3\frac{1}{2}\) acres of land that he wants to develop as a commercial area. If he uses \(\frac{3}{4}\) of his land for storage units, how many acres will be used for the storage units?

   A. \(4\frac{1}{4}\)
   B. \(3\frac{3}{8}\)
   C. \(2\frac{3}{4}\)
   D. \(2\frac{5}{8}\)

7.4A (M)

2. Brian sells marbles in bags of 15. Which graph could he use to determine the total number of marbles in different numbers of bags?

   A. \[
   \begin{align*}
   &\text{Number of Bags} \\
   &\begin{array}{c}
   \text{Number of Marbles}
   \end{array}
   \end{align*}
   \]

   B. \[
   \begin{align*}
   &\text{Number of Bags} \\
   &\begin{array}{c}
   \text{Number of Marbles}
   \end{array}
   \end{align*}
   \]

   C. \[
   \begin{align*}
   &\text{Number of Bags} \\
   &\begin{array}{c}
   \text{Number of Marbles}
   \end{array}
   \end{align*}
   \]

   D. \[
   \begin{align*}
   &\text{Number of Bags} \\
   &\begin{array}{c}
   \text{Number of Marbles}
   \end{array}
   \end{align*}
   \]
7.11A (M)
1. Which number line best represents the solution(s) for the inequality \(7x + 49 > 98\)?

A

B

C

D

7.7A (M)
2. An online music service charges $6 per month, plus $1 per song download. Which graph best represents the relationship between the number of song downloads and the total monthly cost of the music service?

A

B

C

D
7.5C (M)

3. Jackie is constructing a rectangular doghouse based on a drawing from a magazine. In the drawing, 2 inches represent 1 foot.

What will be the area of the actual doghouse floor?

A  24 ft²
B  12 ft²
C  6 ft²
D  3 ft²

7.5C (M)

4. The graph below shows the relationship of a building’s height in a scale model to the building’s actual height.

What scale was used to create the scale model?

A  1 in. = 25 ft
B  1 in. = 150 ft
C  1 ft = 25 ft
D  1 in. = 150 in.
7.9A (H)
1. A soap company redesigned the box for its most popular laundry detergent. The original box is shown below.

The height of the original box was increased by 20%, but the length remained the same. The width of the original box was reduced so that the new box would contain the same volume of detergent. What was the height and width of the new box?

A  Height = 42 cm; Width = 96 cm
B  Height = 96 cm; Width = 42 cm
C  Height = 50 cm; Width = 96 cm
D  Height = 96 cm; Width = 50 cm

7.9C (M)
2. Tomás has a sheet of paper shaped like a trapezoid. He cuts 5 equal circles from the sheet of paper, as shown below.

How much of the original paper does Tomás have left? (Use $\pi \approx 3.14$.)

A  37.3 in.$^2$
B  66.7 in.$^2$
C  68.675 in.$^2$
D  84.675 in.$^2$
7.6G (M)
1. A state representative surveyed 2,000 randomly selected residents about their preferred alternative energy source. The results of the survey are shown on the circle graph below.

Alternative Energy Preferences

- Biofuel 15%
- Wind 20%
- Solar 25%
- Hydroelectric 15%
- Other 5%
- Biomass 20%

Which ratio correctly compares the percentage of residents who prefer solar energy to the percentage of residents who prefer biofuel energy?

A 5:3  C 5:4
B 3:5  D 4:5

7.12B (H)
2. A supervisor asked 25 randomly selected employees of a company’s 100 employees how many hours they use their cell phones at work each week. The responses are shown on the histogram below.

Cell Phone Use at Work

Based on these responses, what could the supervisor infer?

A No employee uses his or her cell phone more than 4 hours per week.
B Every employee uses his or her cell phone at least 0.5 hours per week.
C Most of the employees use his or her cell phone less than 1.5 hours per week.
D Most of the employees use his or her cell phone more than 1.5 hours per week.
7.13C (M)
2. What is the Rauner family’s net worth?
   A $106,500
   B $158,250
   C $199,500
   D $211,500

7.13D (M)
3. People planning to move to a new location can use a family budget estimator to estimate the amount of money they will need per month to live in that location. A family budget estimator for four different cities appears below. (Note: A family budget estimator does not include information about a person’s income or payroll taxes.)

<table>
<thead>
<tr>
<th>City A</th>
<th>City B</th>
<th>City C</th>
<th>City D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic Expenses</strong></td>
<td><strong>Basic Expenses</strong></td>
<td><strong>Basic Expenses</strong></td>
<td><strong>Basic Expenses</strong></td>
</tr>
<tr>
<td>Housing</td>
<td>$920</td>
<td>Housing</td>
<td>$850</td>
</tr>
<tr>
<td>Food</td>
<td>$500</td>
<td>Food</td>
<td>$550</td>
</tr>
<tr>
<td>Utilities</td>
<td>$350</td>
<td>Utilities</td>
<td>$260</td>
</tr>
<tr>
<td>Childcare</td>
<td>$900</td>
<td>Childcare</td>
<td>$675</td>
</tr>
<tr>
<td>Medical Ins.</td>
<td>$350</td>
<td>Medical Ins.</td>
<td>$400</td>
</tr>
<tr>
<td>Transportation</td>
<td>$375</td>
<td>Transportation</td>
<td>$340</td>
</tr>
<tr>
<td>Other</td>
<td>$345</td>
<td>Other</td>
<td>$375</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>Total</strong></td>
<td><strong>Total</strong></td>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>$3,740</td>
<td>$3,450</td>
<td>$3,060</td>
<td>$3,570</td>
</tr>
</tbody>
</table>

A married couple with one child will move to one of the cities represented in the family budget estimator above. Which city would be the best option if the family wants to save money on food?

A City A
B City B
C City C
D City D