# ECS Math Form 17M

## CONTENT STANDARDS MATRIX

### Test Item Correlation to Basic Skills Content Standards

_____
Name of Examinee (or Class)

_____
Date

**TO USE AS A CHECKLIST:**

1. Review test results. At top, mark items + or − .
2. Highlight dots for items answered correctly or incorrectly, depending on overall test performance.
3. At left, check standards frequently missed to target in instruction. Compare to total* times standard appears.

(Use Competency Matrix to assess performance by competency.)

Test item number / CASAS competencies addressed ▶

| Item | CASAS competencies addressed | Task |
|---|---|---|
| 1 | 4.4.8, 6.5.1, 6.2.3 | 3 |
| 2 | 4.4.8, 6.5.1, 6.2.4 | 3 |
| 3 | 6.3.2 | 0 |
| 4 | 6.3.3 | 0 |
| 5 | 6.8.2 | 3 |
| 6 | 1.1.5, 6.1.2 | 3 |
| 7 | 2.3.1, 6.6.6 | 3 |
| 8 | 4.4.6, 6.0.2, 6.2.5 | 2 |
| 9 | 4.4.6, 6.0.2, 6.2.5 | 2 |
| 10 | 4.4.6, 6.7.1, 6.2.2 | 2 |
| 11 | 4.7.2, 6.4.1 | 2 |
| 12 | 4.7.2, 6.4.1, 6.2.3 | 2 |
| 13 | 4.7.2, 6.4.1, 6.2.5 | 2 |
| 14 | 4.7.3, 6.4.3 | 2 |
| 15 | 4.7.3, 6.7.5, 6.2.2 | 2 |
| 16 | 4.7.3, 6.7.5, 6.2.4 | 2 |
| 17 | 4.7.3, 6.4.1, 6.1.1 | 3 |
| 18 | 6.6.1, 1.1.2 | 3 |
| 19 | 6.6.1, 1.1.2 | 3 |
| 20 | 6.6.7, 6.6.5, 6.3.3 | 5 |
| 21 | 6.6.3, 6.6.5 | 5 |
| 22 | 6.6.3, 6.6.5 | 5 |
| 23 | 6.6.5, 6.6.8, 6.6.3, 6.1.5 | 5 |
| 24 | 6.6.5, 6.5.2 | 5 |
| 25 | 6.6.5, 6.6.8 | 5 |
| 26 | 6.5.2, 6.6.5 | 2 |
| 27 | 4.2.1, 6.3.3, 6.4.1 | 3 |
| 28 | 6.6.6, 6.2.4 | 3 |
| 29 | 6.6.6, 6.2.3 | 3 |
| 30 | 6.5.3, 6.0.4 | 3 |
| 31 | 6.5.3, 6.6.3, 6.6.5, 6.5.2, 6.3.3 | 3 |
| 32 | 6.6.3, 6.6.5, 6.5.2, 6.4.6, 6.3.3 | 3 |

### Basic Skills Content Standard (Task ▶)

| Total* | Code | Basic Skills Content Standard | Test items marked (●) |
|---|---|---|---|
| 1 | M1.3.10 | add and subtract fractions and mixed numbers with different denominators | 2 |
| 1 | M1.3.11 | relate multiplication of fractions and division (i.e., multiplying by 1/4 is equivalent to dividing by 4) | 27 |
| 4 | M1.3.12 | multiply and divide with fractions and mixed numbers | 4, 20, 31, 32 |
| 1 | M1.3.14 | use fractions in the context of measurement units | 20 |
| 3 | M1.4.1 | understand decimal notation and place value | 8, 9, 10 |
| 3 | M1.4.4 | read, write, order and compare decimals of three or more places | 8, 9, 10 |
| 2 | M1.4.5 | divide whole numbers and represent quotient as a decimal | 2, 16 |
| 10 | M1.4.7 | add, subtract, multiply and divide decimals | 1, 8, 9, 10, 11, 12, 13, 15, 18, 19 |
| 7 | M1.4.12 | use decimals in the context of measurement units | 1, 2, 8, 9, 10, 18, 19 |
| 3 | M1.4.16 | calculate with money amounts | 11, 12, 13 |
| 1 | M1.5.6 | find benchmark percents of numbers to 1000 (e.g., 10%, 25%, 50%) | 17 |
| 1 | M1.5.11 | calculate percent of increase and decrease | 14 |
| 5 | M1.5.12 | apply percents to money, measurement, and other contextual situations | 11, 12, 13, 17, 29 |
| 2 | M1.6.4 | write and solve a proportion | 18, 19 |

Task: 0 General; 1 Forms; 2 Charts, maps, consumer billings, matrices, graphs, tables; 3 Articles, paragraphs, sentences, directions, manuals; 4 Signs, price tags, advertisements, product labels; 5 Measurement scales, diagrams; 6 Oral cue.

See www.casas.org for complete list of content standards and competencies

# CONTENT STANDARDS MATRIX

| | | Test item number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *Mark + if correct, – if incorrect* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | M1.7.1 | analyze a math-related situation or problem, identifying the mathematical question that needs to be answered, the most appropriate methods, procedures, algorithms and operations to apply, and the relevant and irrelevant information | | | | | | | | | | | | • | • | | • | | • | | | • | | • | • | • | | • | | | | | • | • |
| 3 | M2.2.3 | reason mathematically regarding contextual situations | | | | | | | | | | | | | | | | | | | | • | | | | | | | | | • | • | | |
| 1 | M2.2.4 | interpret and write expressions and equations for simple contextual math situations | | | | | | | | | | | | | | | | | | | | • | | | | | | | | | | | | |
| 1 | M2.2.6 | know and use notational conventions such as parentheses and the various ways of representing multiplication | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | • | | |
| 1 | M2.3.1 | understand and solve simple one-step equations with unknowns (e.g., n – 7 = 9; 3x = 24) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | • | |
| 3 | M2.3.11 | interpret or write an expression or equation for a contextual situation that involves fractions, decimals or percents | | | | | | | | | | | | | | | | | | | | | | | | | | | | | • | • | • | |
| 2 | M2.3.13 | solve problems involving technical formulas (e.g., V = I × R) | • | • | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | M2.3.16 | know, understand and apply the Pythagorean theorem | | | | | | | | | | | | | | | | | | | | | | | | | • | | | | | | | |
| 1 | M2.5.1 | understand the meaning and uses of negative numbers | | | | | | | | | • | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | M2.5.4 | add, subtract, multiply and divide positive and negative numbers | | | | | | • | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | M3.1.3 | draw two-dimensional shapes of particular dimensions | | | | | | | | | | | | | | | | | | | | | | | • | • | | | | | | | | |
| 5 | M3.3.4 | interpret diagrams (e.g., floor plan, blueprint) | | | | | | | | | | | | | | | | | | | | | • | • | • | • | • | | | | | | | |
| 1 | M4.1.2 | read and record time of day in 12-hour format | | | | | | | • | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | M4.1.7 | calculate with units of time: hours, minutes, seconds | | | | | | | • | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | M4.1.9 | convert hours and minutes to decimal time format | | | | | | | | | | | | | | | | | | | | | | | | | | | | | • | • | | |
| 1 | M4.4.1 | understand, interpret, calculate and apply rates involving time, such as velocity (e.g., mi/hr, ft/sec, m/sec), frequency (e.g., calls/hr), consumption (e.g., cal/day, kw/hr), flow (e.g., gal/min), change (e.g., degrees/min, inches/year) | | | | | | | | | | | | | | | | • | | | | | | | | | | | | | | | | |
| 1 | M4.5.1 | understand Fahrenheit scale, including negative temperatures | | | | | | • | | | | | | | | | | | | | | | | | | | | | | | | | | |

See www.casas.org for complete list of content standards and competencies

# CONTENT STANDARDS MATRIX

| | | Test item number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *Mark + if correct, − if incorrect* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | M4.5.3 | compare and calculate with temperatures | | | | | | • | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | M4.7.6 | estimate equivalents between customary US and metric units of capacity | | | | | | | | | | | | | | | | | • | | | | | | | | | | | | | | | |
| 4 | M4.8.6 | calculate with inches, feet, etc. | | | | | | | | | | | | | | | | | | | | • | • | • | | | • | | | | | | | |
| 3 | M4.8.7 | compare linear measurements, including in decimal notation (e.g., tolerances) | | | | | | | | • | • | • | | | | | | | | | | | | | | | | | | | | | | |
| 1 | M4.8.8 | estimate equivalents between customary US and metric units of linear measure | | | | | | | | | | | | | | | | | | • | | | | | | | | | | | | | | |
| 2 | M4.8.12 | interpret scale drawings | | | | | | | | | | | | | | | | | | | | | • | • | | | | | | | | | | |
| 3 | M4.8.13 | interpret and use proportions in solving problems involving dimensions or scale | | | | | | | | | | | | | | | | | | | | • | | | | | | | | | | | • | • |
| 1 | M4.9.1 | understand concept of two and three-dimensional measurements, square and cubic units | | | | | | | | | | | | | | | | | | | | | | | • | | | | | | | | | |
| 1 | M4.9.3 | calculate area of rectangles and other common figures, using a given formula | | | | | | | | | | | | | | | | | | | | | | | • | | | | | | | | | |
| 1 | M4.9.5 | calculate volume and surface area of rectangular and other common shapes, using a given formula | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | • |
| 2 | M4.9.6 | calculate area or volume of irregular or composite shapes by dividing the figure into parts | | | | | | | | | | | | | | | | | | | | | • | • | | | | | | | | | | |
| 9 | M5.1.1 | identify, count and extract data in lists, tables and charts | | | | | | | | • | • | | • | • | • | • | • | • | | | | | | | | | | • | | | | | | |
| 1 | M5.1.4 | extract information from line graphs | | | | | | | | | | • | | | | | | | | | | | | | | | | | | | | | | |
| 1 | M5.2.3 | check for internal accuracy in a data set | | | | | | | | | | | | | | | | • | | | | | | | | | | | | | | | | |
| 1 | M5.2.4 | find the mean and range for a data set | | | | | | | | | | | | | | | • | | | | | | | | | | | | | | | | | |
| 2 | M5.2.12 | understand and use the basic language of statistics to describe, communicate and discuss data | | | | | | | | • | • | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | M5.3.7 | present data in different interpretations (e.g., as percentages, difference, change) | | | | | | | | | • | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | M5.4.1 | understand what the numbers in a data set represent | | | | | | | | • | • | • | | | | | | | | | | | | | | | | | | | | | | |
| 1 | M5.4.2 | understand different ways in which data can be identified, organized and formatted | | | | | | | | | | • | | | | | | | | | | | | | | | | | | | | | | |
| 1 | M6.2.2 | express the likelihood of an occurrence as a ratio fraction or a percent | | | | | • | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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FOR INSTRUCTOR USE ONLY

| **Summary of CASAS competencies covered on Form 17M** Number in parentheses shows the number of test items addressing the competency, if more than one. | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1.1.2 (2) | 2.3.1 | 4.2.1 | 6.0.2 (2) | 6.2.3 (3) | 6.4.3 | 6.6.3 (5) | 6.7.5 (2) |
| 1.1.5 | | 4.4.6 (3) | 6.0.4 (2) | 6.2.4 (3) | 6.4.6 | 6.6.5 (8) | 6.8.2 |
| | | 4.4.8 (2) | 6.1.1 | 6.2.5 (3) | 6.5.1 (2) | 6.6.6 (3) | |
| | | 4.7.2 (3) | 6.1.2 | 6.3.2 | 6.5.2 (4) | 6.6.7 | |
| | | 4.7.3 (4) | 6.1.5 | 6.3.3 (5) | 6.5.3 (2) | 6.6.8 (2) | |
| | | | 6.2.2 (2) | 6.4.1 (5) | 6.6.1 (2) | 6.7.1 | |
| *Refer to Competency Matrix for detailed information on competency coverage.* | | | | | | | |