

**2011 Mathematics Test Standard and Performance Indicator Map
Grade 7**

| Question | Type | Points | Strand | Content Performance Indicator |
|---------------|-----------------|--------|-----------------------------|--|
| Book 1 | | | | |
| 1 | Multiple Choice | 1 | Measurement | 7.M02 Convert capacities and volumes within a given system |
| 2 | Multiple Choice | 1 | Number Sense and Operations | 7.N05 Write numbers in scientific notation |
| 3 | Multiple Choice | 1 | Number Sense and Operations | 7.N14 Develop a conceptual understanding of negative and zero exponents with a base of ten and relate to fractions and decimals (i.e., $10^{-2} = .01 = 1/100$) |
| 4 | Multiple Choice | 1 | Statistics and Probability | 7.S06 Read and interpret data represented graphically (pictograph, bar graph, histogram, line graph, double line/bar graphs, or circle graph) |
| 5 | Multiple Choice | 1 | Number Sense and Operations | 7.N01 Distinguish between the various subsets of real numbers (counting/natural numbers, whole numbers, integers, rational numbers, and irrational numbers) |
| 6 | Multiple Choice | 1 | Geometry | 7.G05 Identify the right angle, hypotenuse, and legs of a right triangle |
| 7 | Multiple Choice | 1 | Number Sense and Operations | 7.N03 Place rational and irrational numbers (approximations) on a number line and justify the placement of the numbers |
| 8 | Multiple Choice | 1 | Statistics and Probability | 7.S01 Identify and collect data using a variety of methods |
| 9 | Multiple Choice | 1 | Measurement | 7.M09 Determine the tool and technique to measure with an appropriate level of precision: mass |
| 10 | Multiple Choice | 1 | Statistics and Probability | 7.S06 Read and interpret data represented graphically (pictograph, bar graph, histogram, line graph, double line/bar graphs, or circle graph) |
| 11 | Multiple Choice | 1 | Number Sense and Operations | 7.N10 Determine the prime factorization of a given number and write in exponential form |
| 12 | Multiple Choice | 1 | Statistics and Probability | 7.S06 Read and interpret data represented graphically (pictograph, bar graph, histogram, line graph, double line/bar graphs, or circle graph) |
| 13 | Multiple Choice | 1 | Measurement | 7.M11 Estimate surface area |

**2011 Mathematics Test Standard and Performance Indicator Map
Grade 7 (continued)**

| Question | Type | Points | Strand | Content Performance Indicator |
|---------------------------|-----------------|------------|-----------------------------|--|
| Book 1 (continued) | | | | |
| 14 | Multiple Choice | 1 | Number Sense and Operations | 7.N06 Translate numbers from scientific notation into standard form |
| 15 | Multiple Choice | 1 | Geometry | 7.G10 Graph the solution set of an inequality (positive coefficients only) on a number line (See 7. A05) |
| 16 | Multiple Choice | 1 | Statistics and Probability | 7.S05 Select the appropriate measure of central tendency |
| 17 | Multiple Choice | 1 | Statistics and Probability | 7.S04 Calculate the range for a given set of data |
| 18 | Multiple Choice | 1 | Number Sense and Operations | 7.N02 Recognize the difference between rational and irrational numbers (i.e., explore different approximations of π) |
| 19 | Multiple Choice | 1 | Measurement | 7.M04 Convert mass within a given system |
| 20 | Multiple Choice | 1 | Geometry | 7.G01 Calculate the radius or diameter, given the circumference or area of a circle |
| 21 | Multiple Choice | 1 | Number Sense and Operations | 7.N09 Determine multiples and least common multiple of two or more numbers |
| 22 | Multiple Choice | 1 | Statistics and Probability | 7.S06 Read and interpret data represented graphically (pictograph, bar graph, histogram, line graph, double line/bar graphs, or circle graph) |
| 23 | Multiple Choice | 1 | Number Sense and Operations | 7.N18 Identify the two consecutive whole numbers between which the square root of a non-perfect square whole number less than 225 lies (with and without the use of a number line) |
| 24 | Multiple Choice | 1 | Statistics and Probability | 6.S02 Record data in a frequency table |
| 25 | Multiple Choice | 1 | Algebra | 7.A05 Solve one-step inequalities (positive coefficients only) (See 7.G10) |
| 26 | Multiple Choice | not scored | Algebra | 7.A03 Identify a polynomial as an algebraic expression containing one or more terms |
| 27 | Multiple Choice | 1 | Number Sense and Operations | 7.N11 Simplify expressions using order of operations; Note: Expressions may include absolute value and/or integral exponents greater than 0 |
| 28 | Multiple Choice | 1 | Number Sense and Operations | 7.N12 Add, subtract, multiply, and divide integers |
| 29 | Multiple Choice | 1 | Statistics and Probability | 7.S12 Compare actual results to predicted results |
| 30 | Multiple Choice | 1 | Number Sense and Operations | 7.N09 Determine multiples and least common multiple of two or more numbers |

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| Question | Type | Points | Strand | Content Performance Indicator |
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| Book 1 (continued) | | | | |
| 31 | Multiple Choice | 1 | Algebra | 7.A04 Solve multi-step equations by combining like terms, using the distributive property, or moving variables to one side of the equation |
| 32 | Multiple Choice | 1 | Measurement | 7.M03 Identify customary and metric units of mass |
| 33 | Multiple Choice | 1 | Statistics and Probability | 7.S10 Predict the outcome of an experiment |
| 34 | Multiple Choice | 1 | Algebra | 7.A06 Evaluate formulas for given input values (surface area, rate, and density problems) |
| 35 | Multiple Choice | 1 | Statistics and Probability | 7.S10 Predict the outcome of an experiment |
| 36 | Multiple Choice | 1 | Number Sense and Operations | 7.N13 Add and subtract two integers (with and without the use of a number line) |
| 37 | Multiple Choice | 1 | Geometry | 7.G03 Identify the two-dimensional shapes that make up the faces and bases of three-dimensional shapes (prisms, cylinders, cones, and pyramids) |
| 38 | Multiple Choice | 1 | Number Sense and Operations | 7.N17 Classify irrational numbers as non-repeating/non-terminating decimals |
| 39 | Multiple Choice | 1 | Statistics and Probability | 7.S12 Compare actual results to predicted results |
| 40 | Multiple Choice | 1 | Number Sense and Operations | 7.N07 Compare numbers written in scientific notation |
| 41 | Multiple Choice | 1 | Algebra | 7.A01 Translate two-step verbal expressions into algebraic expressions |
| 42 | Multiple Choice | 1 | Statistics and Probability | 7.S09 Determine the validity of sampling methods to predict outcomes |
| 43 | Multiple Choice | 1 | Statistics and Probability | 7.S08 Interpret data to provide the basis for predictions and to establish experimental probabilities |
| 44 | Multiple Choice | 1 | Algebra | 7.A02 Add and subtract monomials with exponents of one |
| 45 | Multiple Choice | 1 | Algebra | 7.A08 Create algebraic patterns using charts/tables, graphs, equations, and expressions |
| Book 2 | | | | |
| 46 | Short Response | 2 | Number Sense and Operations | 7.N08 Find the common factors and greatest common factor of two or more numbers |
| 47 | Short Response | 2 | Geometry | 7.G09 Determine whether a given triangle is a right triangle by applying the Pythagorean Theorem and using a calculator |
| 48 | Short Response | 2 | Geometry | 7.G04 Determine the surface area of prisms and cylinders, using a calculator and a variety of methods |

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Grade 7 (continued)**

| Question | Type | Points | Strand | Content Performance Indicator |
|---------------------------|-------------------|---------------|----------------------------|---|
| Book 2 (continued) | | | | |
| 49 | Short Response | 2 | Algebra | 7.A08 Create algebraic patterns using charts/tables, graphs, equations, and expressions |
| 50 | Extended Response | 3 | Statistics and Probability | 7.S06 Read and interpret data represented graphically (pictograph, bar graph, histogram, line graph, double line/bar graphs, or circle graph) |
| 51 | Extended Response | 3 | Statistics and Probability | 7.S03 Convert raw data into double bar graphs and double line graphs |
| 52 | Extended Response | 3 | Measurement | 7.M08 Draw central angles in a given circle using a protractor (circle graphs) |
| 53 | Extended Response | 3 | Statistics and Probability | 6.S03 Construct Venn diagrams to sort data |