

MASSACHUSETTS CURRICULUM FRAMEWORKS FOR MATHEMATICS, 2004 SUPPLEMENT (GRADE 7)	PAGE(S) WHERE TAUGHT (If submission is not a text, cite appropriate resource(s))
Number Sense and Operations	
Students engage in problem solving, communicating, reasoning, connecting, and representing as they:	
<i>Grade 7</i>	
7.N.1 Compare, order, estimate, and translate among integers, fractions and mixed numbers (i.e., rational numbers), decimals, and percents. (*This standard is intentionally the same as standard 8.N.1.)	SE/TE: 2, 7, 11, 14, 31-33, 42, 61, 86, 87-88, 91-92, 95, 96-97, 102-103, 120-121, 274, 279-281
7.N.2 Use ratios and proportions in the solution of problems involving unit rates, scale drawings, and reading of maps.	SE/TE: 228-231, 232-235, 238-239, 242, 243, 244-245, 252-253, 259, 260, 262, 263, 264, 266, 267
7.N.3 Represent numbers in scientific notation (positive powers of ten only) and use that notation in problem situations.	SE/TE: 106-109, 110, 113, 114, 115, 163, 664
7.N.4 Demonstrate an understanding of absolute value, e.g., $[1]-3[1] = [1]3[1] = 3$. (*This standard is intentionally the same as standard 8.N.6.)	SE/TE: 31-32, 33, 34, 35, 39, 41, 42, 61, 62, 505-507, 525
7.N.5 Apply the rules of positive integer exponents to the solution of problems. Extend the Order of Operations to include positive integer exponents.	SE/TE: 68-71, 75, 77-78, 79, 106-109, 112-113, 163, 504, 664
7.N.6 Use the inverse relationships of addition and subtraction, and of multiplication and division, to simplify computations and solve problems, e.g., multiplying by $\frac{1}{2}$ or 0.5 is the same as dividing by 2.	SE/TE: 180-184, 186-190, 200-204, 210-211, 214, 215, 221
7.N.7 Estimate and compute with fractions (including simplification of fractions), integers, decimals, and percents (including those greater than 100 and less than 1). (*This standard is intentionally the same as standard 8.N.10.)	SE/TE: 6, 8-9, 14-15, 20-21, 38, 44-45, 62, 82-83, 127, 136, 141-142, 285, 290-291, 294-295, 305, 311-312
7.N.8 Determine when an estimate rather than an exact answer is appropriate and apply in problem situations. (*This standard is intentionally the same as standard 8.N.11.)	SE/TE: 4, 6-7, 8, 14, 16, 22, 60, 62, 120-122, 175, 176, 177, 233, 305, 306, 401, 406, 423, 477, 521, 539, 557

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7.N.9 Select and use appropriate operations—addition, subtraction, multiplication, division, and positive integer exponents—to solve problems with rational numbers (including negatives). (*This standard is intentionally the same as standard 8.N.12.)	SE/TE: 8-9, 15, 21, 38, 40, 45, 48-49, 52, 60, 61, 69-70, 112, 127, 131, 137, 143, 181, 187-188, 299, 311, 611
Patterns, Relations, and Algebra	
Students engage in problem solving, communicating, reasoning, connecting, and representing as they:	
<i>Grade 7</i>	
7.P.1 Extend, represent, analyze, and generalize a variety of patterns with tables, graphs, words, and, when possible, symbolic expressions. Include arithmetic and geometric progressions, e.g., compounding. (*This standard is intentionally the same as standard 8.P.1.)	SE/TE: 21, 22, 44, 71, 168, 419, 437-440, 441, 442, 445, 446-447, 451, 453, 457, 469, 478
7.P.2 Evaluate simple algebraic expressions for given variable values, e.g., $3a^2 - b$ for $a = 3$ and $b = 7$. (*This standard is intentionally the same as standard 8.P.2.)	SE/TE: 169-172, 173, 191, 194-197, 220, 434, 473-475, 476, 479, 484
7.P.3 Create and use symbolic expressions for linear relationships and relate them to verbal, tabular, and graphical representations.	SE/TE: 206, 447-449, 452-455, 456-459, 462, 479, 491-494, 495, 496-497, 498-499, 502, 568
7.P.4 Solve linear equations using tables, graphs, models, and algebraic methods.	SE/TE: 179, 180-182, 186-187, 192-193, 195, 196, 199, 201-202, 249, 457-459, 492-494, 496-497
7.P.5 Identify, describe, and analyze linear relationships between two variables. Compare positive rate of change, e.g., $y = 3x + 1$, to negative rate of change, e.g., $y = -3x + 1$.	SE/TE: 447-449, 452-454, 456-459, 460, 462, 463, 491-494, 495, 496-497, 498-501, 502
7.P.6 Use linear equations to model and analyze problems involving proportional relationships. Use technology as appropriate. (*This standard is intentionally the same as standard 8.P.9.)	SE/TE: 244-248, 249, 251, 253-255, 259-261, 456-459, 495

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Geometry	
Students engage in problem solving, communicating, reasoning, connecting, and representing as they:	
Grade 7	
7.G.1 Analyze, apply, and explain the relationship between the number of sides and the sums of the interior angle measures of polygons.	SE/TE: 335, 337-339, 341, 343, 345, 365, 367, 368
7.G.2 Classify figures in terms of congruence and similarity, and apply these relationships to the solution of problems. (*This standard is intentionally the same as standard 8.G.2.)	SE/TE: 251, 252-255, 256, 267, 346-349, 365, 367, 368
7.G.3 Demonstrate an understanding of the relationships of angles formed by intersecting lines, including parallel lines cut by a transversal. (*This standard is intentionally the same as standard 8.G.3.)	SE/TE: 325, 326, 327, 328, 329, 330-334, 335, 345, 353, 361-364, 366
7.G.4 Graph points and identify coordinates of points on the Cartesian coordinate plane (all four quadrants). (*7.G.4 is intentionally the same standard as 6.G.4, which is not currently being assessed at grade 6. Standard 7.G.4 will be assessed at grade 7.)	SE/TE: 486-490, 491-494, 495, 496-497, 498, 501, 502, 503, 504-507, 524, 539, 557
7.G.5 Use a ruler, protractor, and compass to draw polygons and circles.	SE/TE: 262, 263, 329, 335, 342-344, 349, 352-353, 355-357, 358, 363-364, 365, 487-488, 490
7.G.6 Predict the results of translations and reflections of figures on unmarked or coordinate planes and draw the transformed figure.	SE/TE: 509, 510-513, 514-517, 518, 520, 523, 525
7.G.7 Identify three-dimensional figures (e.g., prisms, pyramids) by their physical appearance, distinguishing attributes, and spatial relationships such as parallel faces. (*This standard is intentionally the same as standard 8.G.7.)	SE/TE: 325, 410-413, 414-418, 419, 420, 421-425, 426, 429, 431

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Measurement	
Students engage in problem solving, communicating, reasoning, connecting, and representing as they:	
Grade 7	
7.M.1 Select, convert (within the same system of measurement), and use appropriate units of measurement or scale. (*This standard is intentionally the same as standard 8.M.1.)	SE/TE: 26-30, 61, 148-151, 153, 259-263, 264, 267, 374-377, 428
7.M.2 Given the formulas, convert from one system of measurement to another. Use technology as appropriate. (*This standard is intentionally the same as standard 8.M.2.)	SE/TE: 27-29, 61, 148-151, 153, 156-157, 158, 161, 162, 163
7.M.3 Demonstrate an understanding of the concepts and apply formulas and procedures for determining measures, including those of area and perimeter/circumference of parallelograms, trapezoids, and circles. Given the formulas, determine the surface area and volume of rectangular prisms and cylinders. Use technology as appropriate.	SE/TE: 375-378, 379, 380-383, 384, 385, 388-389, 391-392, 394-395, 414-416, 421-422, 426, 428, 429
Data Analysis, Statistics, and Probability	
Students engage in problem solving, communicating, reasoning, connecting, and representing as they:	
Grade 7	
7.D.1 Select, create, interpret, and utilize the following tabular and graphical representations of data: circle graphs, Venn diagrams, stem-and-leaf plots, tables, and charts.	SE/TE: 101, 168, 354-357, 358, 532-536, 537, 541, 544-547, 548, 553, 555, 557, 560-562, 565
7.D.2 Find, describe, and interpret appropriate measures of central tendency (mean, median, and mode) and spread (range) that represent a set of data. Use these notions to compare different sets of data. (*This standard is intentionally the same as standard 8.D.3.)	SE/TE: 53, 54, 55, 56, 57, 61, 62, 218, 473, 530, 545-546, 558-559, 561-564, 565, 571
7.D.3 Use tree diagrams, tables, organized lists, and area models to compute probabilities for simple compound events, e.g., multiple coin tosses or rolls of number cubes.	SE/TE: 581-583, 585, 586-589, 590, 592-595, 596, 597, 598-602, 604, 608, 617