

ACCESS MATH © 2005

correlated to

Illinois
Learning Standards
for Mathematics
Middle/Junior High School

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STATE GOAL 6

Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios, and proportions.

Standard A

Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.

Middle/Junior High School Benchmarks	ACCESS Math
6.A.3. Represent fractions, decimals, percentages, exponents and scientific notation in equivalent forms.	Student Book: 26, 27, 28, 29, 30, 60, 61, 63, 64, 104, 106, 107, 108, 109, 110, 111, 112, 113, 141, 142, 143, 144, 145, 291

Standard B

Investigate, represent and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms and relationships.

Middle/Junior High School Benchmarks	ACCESS Math
6.B.3a. Solve practical computation problems involving whole numbers, integers and rational numbers.	Student Book: 32, 33, 34, 35, 36, 37, 38, 39, 41, 42, 70, 71, 72, 73, 74, 75, 76, 77, 79, 80, 81, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270
6.B.3b. Apply primes, divisors, multiples, common factors and common multiples in solving problems.	Student Book: 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101
6.B.3c. Identify and apply properties of real numbers, including pi, squares, and square roots.	Student Book: 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 218, 219, 221, 224, 229, 230, 231, 260

Standard C

Compute and estimate using mental mathematics, paper-and-pencil methods, calculators and computers.

Middle/Junior High School Benchmarks	ACCESS Math
6.C.3a. Select computational procedures and solve problems with whole numbers, fractions, decimals, percents and proportions.	Student Book: 26, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 40, 42, 58, 59, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 120, 121, 122, 124, 125, 126, 127, 129, 130, 131, 132, 133, 134, 135, 138, 139, 140, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 178, 179, 210, 211, 264, 265, 267, 269
6.C.3b. Show evidence that computational results using whole numbers, fractions, decimals, percents and proportions are correct and/or that estimates are reasonable.	Student Book: 36, 37, 58, 80, 102, 121, 134, 148, 156, 178, 210, 232, 254, 276, 288

Standard D

Solve problems using comparison of quantities, ratios, proportions and percents.

Middle/Junior High School Benchmarks	ACCESS Math
6.D.3. Apply ratios and proportions to solve practical problems.	Student Book: 137, 138, 139, 140, 142, 147, 148, 149, 150, 200, 201, 202, 203, 204, 241, 242

STATE GOAL 7

Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.

Standard A

Measure and compare quantities using appropriate units, instruments and methods.

Middle/Junior High School Benchmarks	ACCESS Math
7.A.3a. Measure length, capacity, weight/mass, and angles using sophisticated instruments (e.g., compass, protractor, trundle wheel).	Student Book: 57, 67, 111, 113, 118, 123, 128, 182, 183, 184, 188, 189, 192, 194, 197, 218
7.A.3b. Apply the concepts and attributes of length, capacity, weight/mass, perimeter, area, volume, time, temperature and angle measures in practical situations.	Student Book: 57, 67, 109, 110, 111, 112, 115, 116, 117, 118, 121, 122, 125, 126, 127, 129, 130, 131, 132, 138, 182, 183, 185, 186, 188, 197, 198, 201, 202, 203, 212, 213, 214, 215, 216, 218, 219, 220, 221, 223, 224, 225, 226, 228, 229, 230, 231, 232, 233, 257, 258, 259

Standard B

Estimate measurements and determine acceptable levels of accuracy.

Middle/Junior High School Benchmarks	ACCESS Math
7.B.3. Select and apply instruments including rulers and protractors and units of measure to the degree of accuracy required.	Student Book: 57, 67, 111, 113, 118, 123, 128, 182, 183, 184, 188, 189, 192, 194, 197, 218

Standard C

Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.

Middle/Junior High School Benchmarks	ACCESS Math
7.C.3a. Construct a simple scale drawing for a given situation.	Student Book: 202, 203, 204
7.C.3b. Use concrete and graphic models and appropriate formulas to find perimeters, areas, surface areas and volumes of two- and three-dimensional regions.	Student Book: 213, 214, 215, 216, 218, 219, 220, 221, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233

STATE GOAL 8

Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems, and predict results.

Standard A

Describe numerical relationships using variables and patterns.

Middle/Junior High School Benchmarks	ACCESS Math
8.A.3a. Apply the basic properties of commutative, associative, distributive, transitive, inverse, identity, zero, equality and order of operations to solve problems.	Student Book: 32, 33, 34, 35, 38, 39, 41, 42, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 261, 262, 263, 264, 265, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 294
8.A.3b. Solve problems using linear expressions, equations and inequalities.	Student Book: 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289

Standard B

Interpret and describe numerical relationships using tables, graphs and symbols.

Middle/Junior High School Benchmarks	ACCESS Math
8.B.3. Use graphing technology and algebraic methods to analyze and predict linear relationships and make generalizations from linear patterns.	Student Book: 45, 46, 51, 52, 54, 55, 56, 273, 274, 275, 276, 277, 279, 280, 281,

Standard C

Solve problems using systems of numbers and their properties.

Middle/Junior High School Benchmarks	ACCESS Math
8.C.3. Apply the properties of numbers and operations including inverses in algebraic settings derived from economics, business and the sciences.	Student Book: 33, 34, 44, 51, 54, 55, 56, 147, 148, 149, 152, 153, 154, 155, 280, 281, 285, 286

Standard D

Use algebraic concepts and procedures to represent and solve problems.

Middle/Junior High School Benchmarks	ACCESS Math
8.D.3a. Solve problems using numeric, graphic or symbolic representations of variables, expressions, equations and inequalities.	Student Book: 40, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 138, 139, 140, 142, 145, 147, 149, 152, 153, 154, 155, 186, 188, 192, 193, 202, 203, 241, 242, 273, 274, 275, 276, 277, 279, 280, 281, 282, 284, 285, 286
8.D.3b. Propose and solve problems using proportions, formulas and linear functions.	Student Book: 44, 45, 46, 51, 54, 55, 56, 138, 139, 140, 144, 145, 147, 148, 149, 150, 151, 152, 153, 154, 155, 186, 192, 202, 203, 204, 213, 214, 215, 216, 218, 219, 220, 221, 223, 224, 225, 226, 228, 229, 230, 231, 232, 233, 241, 242, 243, 273, 274, 275, 276, 277, 279, 280, 281, 282, 288, 289
8.D.3c. Apply properties of powers, perfect squares and square roots.	Student Book: 26, 27, 28, 29, 30, 89, 90, 214, 215, 219, 220, 221, 224, 225, 229, 230, 231, 291

STATE GOAL 9

Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes, and space.

Standard A

Demonstrate and apply geometric concepts involving points, lines, planes and space.

Middle/Junior High School Benchmarks	ACCESS Math
9.A.3a. Draw or construct two- and three-dimensional geometric figures including prisms, pyramids, cylinders and cones.	Student Book: 187, 188, 189, 191, 192, 193, 194, 197, 199, 201, 204, 213, 216, 217, 221, 226, 228
9.A.3b. Draw transformation images of figures, with and without the use of technology.	Student Book: 206, 207, 208, 209
9.A.3c. Use concepts of symmetry, congruency, similarity, scale, perspective, and angles to describe and analyze two- and three-dimensional shapes found in practical applications (e.g., geodesic domes, A-Frame houses, basketball courts, inclined planes, art forms, blueprints).	Student Book: 195, 197, 198, 199, 200, 201, 202, 223, 224, 226

Standard B

Identify, describe, classify and compare relationships using points, lines, planes and solids.

Middle/Junior High School Benchmarks	ACCESS Math
9.B.3. Identify, describe, classify and compare two- and three-dimensional geometric figures and models according to their properties.	Student Book: 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 217, 222, 223, 224, 225, 226

Standard C

Construct convincing arguments and proofs to solve problems.

Middle/Junior High School Benchmarks	ACCESS Math
9.C.3a. Construct, develop and communicate logical arguments (informal proofs) about geometric figures and patterns.	Student Book: 46, 58, 59, 156, 157, 178, 179, 183, 184, 186, 187, 188, 189, 192, 199, 201, 204, 207, 208, 209
9.C.3b. Develop and solve problems using geometric relationships and models, with and without the use of technology.	Student Book: 186, 187, 188, 189, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 213, 214, 215, 217, 218, 219, 220, 221, 223, 224, 225, 226, 228, 229, 230, 231, 232, 233

Standard D

Use trigonometric ratios and circular functions to solve problems.

Middle/Junior High School Benchmarks	ACCESS Math
9.D.3. Compute distances, lengths and measures of angles using proportions, the Pythagorean theorem and its converse.	Student Book: 201, 202, 203, 204

STATE GOAL 10

Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.

Standard A

Organize, describe and make predictions from existing data.

Middle/Junior High School Benchmarks	ACCESS Math
10.A.3a. Construct, read, and interpret tables, graphs (including circle graphs) and charts to organize and represent data.	Student Book: 142, 144, 145, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179
10.A.3b. Compare the mean, median, mode and range, with and without the use of technology.	Student Book: 160, 161, 162, 165, 166, 167, 176
10.A.3c. Test the reasonableness of an argument based on data and communicate their findings.	Student Book: 162, 166, 167, 171, 172, 177

Standard B

Formulate questions, design data collection methods, gather and analyze data and communicate findings.

Middle/Junior High School Benchmarks	ACCESS Math
10.B.3. Formulate questions (e.g., relationships between car age and mileage, average incomes and years of schooling), devise and conduct experiments or simulations, gather data, draw conclusions and communicate results to an audience using traditional methods and contemporary technologies.	Student Book: 158, 159, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179

Standard C

Determine, describe and apply the probabilities of events.

Middle/Junior High School Benchmarks	ACCESS Math
10.C.3a. Determine the probability and odds of events using fundamental counting principals.	Student Book: 234, 235, 236, 237, 238, 244, 245, 246, 247, 248, 250, 251, 252, 253
10.C.3b. Analyze problem situations (e.g., board games, grading scales) and make predictions about results.	Student Book: 235, 236, 237, 238, 239, 240, 241, 242, 243, 254, 255



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