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correlated to

Ohio

**Mathematics Academic
Content Standards
Grades 6-8**

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EDUCATION GROUP



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Ohio Mathematics Academic Content Standards
Grade 6

**Number, Number Sense and Operations
Standard**

Grade-Level Indicators, Grade 6	ACCESS Math
<p><i>Number and Number Systems</i></p> <p>1. Decompose and recompose whole numbers using factors and exponents (e.g., $8 = 2 \times 2 \times 2 = 2^3$), and explain why “squared” means “second power” and “cubed” means “third power.”</p>	<p>Student Book: 26, 27, 28, 30</p>
<p>2. Find and use the prime factorization of composite numbers. For example:</p> <ul style="list-style-type: none"> a. Use the prime factorization to recognize the greatest common factor (GCF). b. Use the prime factorization to recognize the least common factor (LCF). c. Apply the prime factorization to solve problems and explain solutions. 	<p>Student Book: 89, 92, 93, 94, 96, 97, 98, 99</p>
<p>3. Explain why a number is referred to as being “rational,” and recognize that the expression a/b can mean a parts of size $1/b$ each, a divided by b, or the ratio of a to b.</p>	<p>Student Book: 104, 105, 106, 108, 109, 110, 111, 136, 137</p>
<p>4. Describe what it means to find a specific percent of a number, using real-life examples.</p>	<p>Student Book: 146, 147, 148</p>
<p>5. Use models and pictures to relate concepts of ratio, proportion and percent, including percents less than 1 and greater than 100.</p>	<p>Student Book: 147, 148</p>
<p><i>Meaning of Operations</i></p> <p>6. Use order of operations, including use of exponents, decimals, and rational numbers, to simplify numerical expressions.</p>	<p>Student Book: 38, 39, 44, 47</p>

Grade-Level Indicators, Grade 6	ACCESS Math
7. Use simple expressions involving integers to represent and solve problems; e.g., if a running back loses 15 yards on the first carry, but gains 8 yards on the second carry, what is the net gain/loss?	Student Book: 256, 257, 258, 260, 267
8. Represent multiplication and division situations involving fractions and decimals with models and visual representations; e.g., show with pattern blocks what it means to take $2\frac{2}{3} \div \frac{1}{6}$.	Student Book: 75, 76, 77, 79, 129, 130, 131, 133
9. Give examples of how ratios are used to represent comparisons; e.g., part-to-part, part-to-whole, whole-to-part.	Student Book: 136, 137
10. Recognize that a quotient may be larger than the dividend when the divisor is a fraction; e.g., $6 \div \frac{1}{2} = 12$.	Student Book: 131
<p><i>Computation and Estimation</i></p> 11. Perform fraction and decimal computations and justify their solutions; e.g., using manipulatives, diagrams, mathematical reasoning.	Student Book: 70, 71, 72, 74, 75, 76, 77, 79, 119, 120, 121, 124, 125, 126, 128, 129, 130, 131, 133
12. Develop and analyze algorithms for computing with fractions and decimals, and demonstrate fluency in their use.	Student Book: 70, 71, 72, 74, 75, 76, 77, 79, 119, 120, 121, 124, 125, 126, 128, 129, 130, 131, 133
13. Estimate reasonable solutions to problem situations involving fractions and decimals; e.g., $\frac{7}{8} + \frac{12}{13} \approx 2$ and $4.23 \times 5.8 \approx 25$.	Student Book: 79, 121
14. Use proportional reasoning, ratios and percents to represent problem situations and determine the reasonableness of solutions.	Student Book: 136, 137, 138, 140, 141, 141, 142, 143, 145, 146, 147, 148, 150, 151, 152, 153, 155
15. Determine the percent of a number and solve related problems; e.g., find the percent markdown if the original price was \$140.00, and the sale price was \$100.00.	Student Book: 146, 147, 148, 150, 151, 152, 153, 155

M e a s u r e m e n t S t a n d a r d

Grade-Level Indicators, Grade 6	ACCESS Math
<p><i>Measurement Units</i></p> <p>1. Understand and describe the difference between surface area and volume.</p>	<p>Student Book: 222, 223, 226, 227, 228, 229, 231</p>
<p><i>Use Measurement Techniques and Tools</i></p> <p>2. Use strategies to develop formulas for finding circumference and area of circles, and to determine the area of sectors; e.g., 1/2 circle, 2/3 circle, 1/4 circle.</p>	<p>Student Book: 217, 218, 219, 221</p>
<p>3. Estimate perimeter or circumference and area for circles, triangles and quadrilaterals, and surface area and volume for prisms and cylinders by:</p> <ol style="list-style-type: none"> a. Estimating lengths using striking or links, areas using tiles or grid and volumes using cubes; b. Measuring attributes (diameter, side lengths, or heights) and established formulas for circles, triangles, rectangles, parallelograms and rectangular prisms. 	<p>Student Book: 214, 221</p>
<p>4. Determine which measure (perimeter, area, surface area, volume) matches the context for a problem situation; e.g., perimeter is the context for fencing a garden, surface area is the context for painting a room.</p>	<p>Student Book: 212, 213, 214, 216, 217, 218, 219, 221, 222, 223, 224, 226, 227, 228, 229, 231</p>
<p>5. Understand the difference between perimeter and area, and demonstrate that two shapes may have the same perimeter, but different areas or may have the same area, but different perimeters.</p>	<p>Student Book: 212, 213, 214, 216, 217</p>
<p>6. Describe what happens to the perimeter and area of a two-dimensional shape when the measurements of the shape are changed; e.g., length of sides are doubled.</p>	<p>Student Book: 212, 213, 214, 216, 217</p>

Geometry and Spatial Sense Standard

Grade-Level Indicators, Grade 6	ACCESS Math
<p><i>Characteristics and Properties</i></p> <p>1. Classify and describe two-dimensional and three-dimensional geometric figures and objects by using their properties; e.g., interior angle measures, perpendicular/parallel sides, congruent angles/sides).</p>	<p>Student Book: 187, 189, 190, 191, 192, 194, 213, 214, 217, 222, 223, 224, 228, 229</p>
<p>2. Use standard language to define geometric vocabulary: vertex, face, altitude, diagonal, isosceles, equilateral, acute, obtuse and other vocabulary as appropriate.</p>	<p>Student Book: 187, 189, 190, 191, 192, 194, 213, 214, 217, 222, 223, 224, 228, 229</p>
<p>3. Use multiple classification criteria to classify triangles; e.g., right, scalene triangle.</p>	<p>Student Book: 187, 189</p>
<p>4. Identify and define relationships between planes; i.e., parallel, perpendicular and intersecting.</p>	<p>Student Book: 180, 181</p>
<p><i>Spatial Relationships</i></p> <p>5. Predict and describe sizes, positions and orientations of two-dimensional shapes after transformations such as reflections, rotations, translations and dilations.</p>	<p>Student Book: 205, 206, 209</p>
<p><i>Transformations and Symmetry</i></p> <p>6. Draw similar figures that model proportional relationships; e.g., model similar figures with a 1 to 2 relationship by sketching two of the same figure, one with corresponding sides twice the length of the other.</p>	<p>Student Book: 200, 201, 202, 204</p>
<p><i>Visualization and Geometric Models</i></p> <p>7. Build three-dimensional objects with cubes, and sketch the two-dimensional representations of each side; i.e., projection sets.</p>	<p>Student Book: 223, 224, 226</p>

P a t t e r n s , F u n c t i o n s a n d A l g e b r a S t a n d a r d

Grade-Level Indicators, Grade 6	ACCESS Math
<p><i>Use Patterns, Relations and Functions</i></p> <p>1. Represent and analyze patterns, rules and functions, using physical materials, tables and graphs.</p>	Student Book: 45, 58, 273
<p>2. Use words and symbols to describe numerical and geometric patterns, rules and functions.</p>	Student Book: 45, 58, 266
<p><i>Use Algebraic Representations</i></p> <p>3. Recognize and generate equivalent forms of algebraic expressions, and explain how the commutative, associative and distributive properties can be used to generate equivalent forms; e.g., perimeter as $2(l + w)$ or $2l + 2w$.</p>	Student Book: 43, 44, 45, 213, 214, 218, 219
<p>4. Solve simple linear equations and inequalities using physical models, paper and pencil, tables and graphs.</p>	Student Book: 48, 49, 50, 52, 53, 54, 55, 276, 277, 278, 279, 280, 282, 283, 284, 285
<p>5. Produce and interpret graphs that represent the relationship between two variables.</p>	Student Book: 273
<p>6. Evaluate simple expressions by replacing variables with given values, and use formulas in problem-solving situations.</p>	Student Book: 44, 45, 153, 213, 214, 216, 218, 219, 221, 223, 224, 226, 228, 229, 231
<p><i>Analyze Change</i></p> <p>7. Identify and describe situations with constant or varying rates of change, and compare them.</p>	Student Book: 153
<p>8. Use technology to analyze change; e.g., use computer applications or graphing calculators to display and interpret rate of change.</p>	Student Book: 155

Data Analysis and Probability Standard

Grade-Level Indicators, Grade 6	ACCESS Math
<p><i>Data Collection</i></p> <p>1. Read, construct and interpret line graphs, circle graphs and histograms.</p>	Student Book: 168, 169, 170, 172, 173, 174, 175, 177
<p>2. Select, create and use graphical representations that are appropriate for the type of data collected.</p>	Student Book: 168, 169, 170, 172, 173, 174, 175, 177
<p><i>Statistical Methods</i></p> <p>4. Understand the different information provided by measures of center (mean, median, mode) and measures of spread (range).</p>	Student Book: 160, 165, 167
<p>5. Describe the frequency distribution of a set of data, as shown in a histogram or frequency table, by general appearance or shape; e.g., number of modes, middle of data, level of symmetry, outliers.</p>	Student Book: 159, 160, 162, 165, 167
<p>6. Make logical inferences from statistical data.</p>	Student Book: 165, 167
<p><i>Probability</i></p> <p>7. Design an experiment to test a theoretical probability and explain how the results may vary.</p>	Student Book: 234, 235, 236, 238

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Grade 7

N u m b e r , N u m b e r S e n s e a n d O p e r a t i o n s
S t a n d a r d

Grade-Level Indicators, Grade7	ACCESS Math
<p><i>Number and Number Systems</i></p> <p>1. Demonstrate an understanding of place value using powers of 10 and write large number in scientific notation.</p>	<p>Student Book: 291</p>
<p>3. Describe the differences between rational and irrational numbers; e.g., use technology to show that some numbers (rational) can be expressed as terminating or repeating decimals and others (irrational) as non-terminating and non-repeating decimals.</p>	<p>Student Book: 143, 144, 260</p>
<p><i>Meaning of Operations</i></p> <p>4. Use order of operations and properties to simplify numerical expressions involving integers, fractions, and decimals.</p>	<p>Student Book: 32, 33, 35, 38, 39, 40, 42, 47, 48, 49, 50, 53, 54, 56, 269, 278, 279, 280, 282</p>
<p>5. Explain the meaning and effect of adding, subtracting, multiplying, and dividing integers; e.g., how adding two integers can result in a lesser value.</p>	<p>Student Book: 261, 262, 263, 265, 266, 267, 268, 270</p>
<p><i>Computation and Estimation</i></p> <p>6. Simplify numerical expressions involving integers and use integers to solve real-life problems.</p>	<p>Student Book: 269</p>
<p>7. Solve problems using the appropriate form of a rational number (fraction, decimal or percent).</p>	<p>Student Book: 71, 72, 74, 76, 77, 79, 80, 81, 120, 121, 125, 126, 128, 130, 131, 133, 138, 145, 147, 148, 150, 152, 153, 155</p>

Grade-Level Indicators, Grade7	ACCESS Math
8. Develop and analyze algorithms for computing with percents and integers, and demonstrate fluency in their use.	Student Book: 147, 148, 150, 152, 153, 155, 261, 262, 263, 265, 267, 268, 270
9. Represent and solve problem situations that can be modeled by and solved using concepts of absolute value, exponents and square roots (for perfect squares).	Student Book: 26, 27, 28, 30, 39, 257, 291

Measurement Standard

Grade-Level Indicators, Grade7	ACCESS Math
<p><i>Use Measurement Techniques and Tools</i></p> <p>4. Solve problems involving proportional relationships and scale factors; e.g., scale models that require unit conversions within the same measurement system.</p>	Student Book: 138, 147, 148, 202
5. Analyze problem situations involving measurement concepts, select appropriate strategies, and use an organized approach to solve narrative and increasingly complex problems.	Student Book: 216, 221, 226, 231, 232, 233
6. Use strategies to develop formulas for finding areas of trapezoids and volume of cylinders and prisms.	Student Book: 228, 229, 231
7. Develop strategies to find the area of composite shapes using the areas of triangles, parallelograms, circles and sectors.	Student Book: 214, 216
8. Understand the difference between surface area and volume and demonstrate that two objects may have the same surface area, but different volumes or may have the same volume, but different surface areas.	Student Book: 223, 224, 226, 228, 229, 231
9. Describe what happens to the surface area and volume of a three-dimensional object when the measurements of the object are changed; e.g., length of sides are doubled.	Student Book: 229, 231

Geometry and Spatial Sense Standard

Grade-Level Indicators, Grade7	ACCESS Math
<p><i>Characteristics and Properties</i></p> <p>1. Use proportional reasoning to describe and express relationships between parts and attributes of similar and congruent figures.</p>	<p>Student Book: 200, 201, 202, 204</p>
<p>2. Determine sufficient (not necessarily minimal) properties that define a specific two-dimensional figure or three-dimensional object. For example:</p> <ol style="list-style-type: none"> a. Determine when one set of figures is a subset of another; e.g., all squares are rectangles. b. develop a set of properties that eliminates all but the desired figure; e.g., only squares are quadrilaterals with all sides congruent and all angles congruent. 	<p>Student Book: 187, 189, 190, 191, 192, 194, 213, 214, 217, 222, 223, 224, 228, 229</p>
<p>4. Determine necessary conditions for congruence of triangles.</p>	<p>Student Book: 196, 199</p>
<p>5. Apply properties or congruent of similar triangles to solve problems involving missing lengths and angle measures.</p>	<p>Student Book: 202, 204</p>
<p><i>Spatial Relationships</i></p> <p>6. Determine and use scale factors for similar figures to solve problems using proportional reasoning.</p>	<p>Student Book: 202, 204</p>
<p><i>Transformations and Symmetry</i></p> <p>8. Perform translations, reflections, rotations and dilations of two-dimensional figures using a variety of methods (paper folding, tracing, graph paper).</p>	<p>Student Book: 205, 206, 207, 209</p>
<p><i>Visualization and Geometric Models</i></p> <p>9. Draw representations of three-dimensional geometric objects from different views.</p>	<p>Student Book: 222, 223, 224, 226, 228, 229, 231</p>

P a t t e r n s , F u n c t i o n s a n d A l g e b r a S t a n d a r d

Grade-Level Indicators, Grade7	ACCESS Math
<p><i>Use Patterns, Relations and Functions</i></p> <p>1. Represent and analyze patterns, rules and functions with words, tables, graphs and simple variable expressions.</p>	<p>Student Book: 45, 58, 59, 266, 273</p>
<p>2. Generalize patterns by describing in words how to find the next term.</p>	<p>Student Book: 58, 59</p>
<p><i>Use Algebraic Representations</i></p> <p>4. Create visual representations of equation-solving processes that model the use of inverse operations.</p>	<p>Student Book: 49, 50, 53, 54, 261, 262, 263, 265, 267, 268, 280</p>
<p>5. Represent linear equations by plotting points in the coordinate plane.</p>	<p>Student Book: 273</p>
<p>6. Represent inequalities on a number line or a coordinate plane.</p>	<p>Student Book: 284</p>
<p>7. Justify that two forms of an algebraic expression are equivalent, and recognize when an expression is simplified; e.g., $4m = m + m + m + m$ or $a \cdot 5 + 4 = 5a + 4$.</p>	<p>Student Book: 43, 44</p>
<p>8. Use formulas in problem-solving situations.</p>	<p>Student Book: 153, 213, 214, 216, 218, 219, 221, 223, 224, 226, 228, 229, 231</p>
<p>9. Recognize a variety of uses for variables; e.g., placeholder for an unknown quantity in an equation, generalization for a pattern, formula.</p>	<p>Student Book: 40, 43, 44, 45, 47, 49, 50, 52, 53, 54, 55, 57, 138, 153, 213, 214, 218, 219, 221, 223, 224, 228, 229, 276, 277, 278, 279, 280, 282, 284, 285, 288, 289</p>
<p><i>Analyze Change</i></p> <p>10. Analyze linear and simple nonlinear relationships to explain how a change in one variable results in a change of another.</p>	<p>Student Book: 170, 171, 172, 175, 273</p>

Data Analysis and Probability Standard

Grade-Level Indicators, Grade7	ACCESS Math
<p><i>Data Collection</i></p> <p>1. Read, create and interpret box-and-whisker plots, stem-and-leaf plots, and other types of graphs, when appropriate.</p>	<p>Student Book: 164, 165, 167, 168, 169, 172, 174, 175, 177</p>
<p>2. Analyze how decisions about graphing affect the graphical representation; e.g., scale, size of classes in histogram, number of categories in a circle graph.</p>	<p>Student Book: 160, 167, 168, 169, 172, 174, 175, 177</p>
<p><i>Statistical Methods</i></p> <p>3. Analyze a set of data by using and comparing combinations of measures of center (mean, median, mode) and measures of spread (range, quartile, interquartile range) and describe how the inclusion or exclusion of outliers affects those measures.</p>	<p>Student Book: 160, 165, 167</p>
<p>6. Identify misuses of statistical data in articles, advertisements, and other media.</p>	<p>Student Book: 175</p>
<p><i>Probability</i></p> <p>7. Compute probabilities of compound events; e.g., multiple coin tosses or multiple rolls of number cubes, using such methods as organized lists, tree diagrams and area models.</p>	<p>Student Book: 245, 246</p>
<p>8. Make predictions based on theoretical probabilities, design and conduct an experiment to test the predictions, compare actual results to predicted results, and explain the differences.</p>	<p>Student Book: 234, 235, 236, 238, 239, 240, 241, 243, 244, 245, 246</p>



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Ohio Mathematics Academic Content Standards Grade 8

Number, Number Sense and Operations Standard

Grade-Level Indicators, Grade 8	ACCESS Math
<p><i>Number and Number Systems</i></p> <p>1. Use scientific notation to express large numbers and small numbers between 0 and 1.</p>	<p>Student Book: 291</p>
<p>2. Recognize natural numbers, whole numbers, integers, rational numbers and irrational numbers are subsets of the real number system.</p>	<p>Student Book: 260</p>
<p><i>Meaning of Operations</i></p> <p>3. Apply order of operations to simplify expressions and perform computations involving integer exponents and radicals.</p>	<p>Student Book: 38, 39, 40, 269</p>
<p>4. Explain and use the inverse and identity properties and use inverse relationships (addition/subtraction, multiplication/division, squaring/square roots) in problem solving situations.</p>	<p>Student Book: 48, 49, 50, 52, 53, 54, 55, 262, 263, 265, 266, 267, 268, 270, 276, 277, 278, 279, 280, 282, 283, 284, 285</p>
<p><i>Computation and Estimation</i></p> <p>5. Determine when an estimate is sufficient and when an exact answer is needed in problem situations, and evaluate estimates in relation to actual answers; e.g., very close, less than, greater than.</p>	<p>Student Book: 21, 22, 23, 79, 121, 182, 214, 221</p>
<p>6. Estimate, compute and solve problems involving rational numbers, including ratio, proportion and percent, and judge the reasonableness of solutions.</p>	<p>Student Book: 71, 72, 74, 76, 77, 79, 80, 81, 120, 121, 125, 126, 128, 130, 131, 133, 137, 138, 145, 147, 148, 150, 152, 153, 155, 202</p>

Measurement Standard

Grade-Level Indicators, Grade 8	ACCESS Math
<p><i>Use Measurement Techniques and Tools</i></p> <p>3. Use appropriate levels of precision when calculating with measurements.</p>	<p>Student Book: 182, 184</p>
<p>4. Derive formulas for surface area and volume and justify them using geometric models and common materials. For example, find:</p> <ol style="list-style-type: none"> a. the surface area of a cylinder as a function of its height and radius. b. the volume of a pyramid (or cone) is one-third of the volume of a prism (or cylinder) with the same base area and height. 	<p>Student Book: 223, 224, 226, 228, 229, 231</p>
<p>6. Solve and determine the reasonableness of the results for problems involving rates and derived measurements, such as velocity and density, using formulas, models and graphs.</p>	<p>Student Book: 153</p>
<p>7. Apply proportional reasoning to solve problems involving indirect measurements or rates.</p>	<p>Student Book: 202, 204</p>
<p>8. Find the sum of interior and exterior angles of regular convex polygons with and without measuring the angles with a protractor.</p>	<p>Student Book: 188, 189, 192, 193, 197, 198, 202</p>
<p>9. Demonstrate understanding of the concepts of perimeter, circumference and area using established formulas for triangles, quadrilaterals, and circles to determine surface area and volume of prisms, pyramids, cylinders, spheres, and cones. (Note: Only volume should be calculated for spheres and cones.)</p>	<p>Student Book: 213, 214, 216, 218, 219, 221, 223, 224, 226, 228, 229, 231</p>
<p>10. Use conventional formulas to find the surface area and volume of prisms, pyramids and cylinders and the volume of spheres and cones to a specified level of precision.</p>	<p>Student Book: 223, 224, 226, 228, 229, 231</p>

G e o m e t r y a n d S p a t i a l S e n s e S t a n d a r d

Grade-Level Indicators, Grade 8	ACCESS Math
<p><i>Characteristics and Properties</i></p> <p>1. Make and test conjectures about characteristics and properties (e.g., sides, angles, symmetry) of two-dimensional figures and three-dimensional objects.</p>	<p>Student Book: 187, 189, 190, 191, 192, 194, 213, 214, 217, 222, 223, 224, 228, 229</p>
<p>2. Recognize the angles formed and the relationship between the angles when two lines intersect and when parallel lines are cut by a transversal.</p>	<p>Student Book: 181, 182</p>
<p>3. Use proportions in several forms to solve problems involving similar figures (part-to-part, part-to-whole, corresponding sides between figures).</p>	<p>Student Book: 202, 204</p>
<p><i>Spatial Relationships</i></p> <p>4. Represent and analyze shapes using coordinate geometry; e.g., given three vertices and the type of quadrilateral, find the coordinate of the fourth vertex.</p>	<p>Student Book: 209, 275</p>
<p><i>Transformations and Symmetry</i></p> <p>5. Draw the results of translations, reflections, rotations and dilations of objects in the coordinate plane, and determine properties that remain fixed; e.g., lengths of sides remain the same under translations.</p>	<p>Student Book: 209</p>
<p><i>Visualization and Geometric Models</i></p> <p>6. Draw nets for a variety of prisms, pyramids, cylinders and cones.</p>	<p>Student Book: 223, 224, 226</p>

P a t t e r n s , F u n c t i o n s a n d A l g e b r a S t a n d a r d

Grade-Level Indicators, Grade 8	ACCESS Math
<p><i>Use Patterns, Relations and Functions</i></p> <p>1. Relate the various representations of a relationship; i.e., relate a table to a graph, description and symbolic form.</p>	<p>Student Book: 45, 58, 49, 273</p>

Grade-Level Indicators, Grade 8	ACCESS Math
2. Generalize patterns and sequences by describing how to find the n th term.	Student Book: 58, 59
3. Identify functions as linear or nonlinear based on the information given in a table, graph or equation.	Student Book: 273
<i>Use Algebraic Representations</i>	Student Book: 273
4. Extend the uses of variables to include covariants where y depends on x .	
6. Describe the relationship between the graph of a line and its equation, including being able to explain the meaning of slope as a constant rate of change and y -intercept in real-world problems.	Student Book: 273
7. Use symbolic algebra (equations and inequalities), graphs and tables to represent situations and solve problems.	Student Book: 48, 49, 50, 52, 53, 54, 55, 276, 277, 278, 279, 280, 282, 283, 284, 285
8. Write, simplify and evaluate algebraic expressions (including formulas) to generalize situations and solve problems.	Student Book: 44, 45, 153, 213, 214, 216, 218, 219, 221, 223, 224, 226, 228, 229, 231
9. Solve linear equations and inequalities graphically, symbolically and using technology.	Student Book: 48, 49, 50, 52, 53, 54, 55, 276, 277, 278, 279, 280, 282, 283, 284, 285

Data Analysis and Probability Standard

Grade-Level Indicators, Grade 8	ACCESS Math
<i>Data Collection</i>	Student Book: 160, 169, 170, 172, 174
1. Use, create and interpret scatterplots and other types of graphs as appropriate.	
3. Differentiate between discrete and continuous data and appropriate ways to represent each.	Student Book: 160, 162, 164, 165, 167
<i>Statistical Methods</i>	Student Book: 160, 165, 167
4. Compare two sets of data using measures of center (mean, mode, median) and measures of spread (range, quartiles, interquartile range, percentiles).	

Grade-Level Indicators, Grade 8	ACCESS Math
5. Explain the mean's sensitivity to extremes and its use in comparison with the median and mode.	Student Book: 165
7. Identify different ways of selecting samples, such as survey response, random sample, representative sample and convenience sample.	Student Book: 158, 159, 160, 162
9. Construct convincing arguments based on analysis of data and interpretation of graphs.	Student Book: 160, 170, 172, 174, 175, 177
<p><i>Probability</i></p> <p>10. Calculate the number of possible outcomes for a situation, recognizing and accounting for when items may occur more than once or when order is important.</p>	Student Book: 244, 245, 246, 248, 149, 250, 251, 253
11. Demonstrate an understanding that the productivity of either two disjoint events occurring can be found by adding the probabilities for each and that the probability of one independent event following another can be found by multiplying the probabilities.	Student Book: 241, 245, 246



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