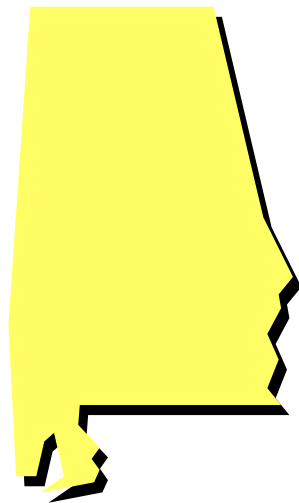
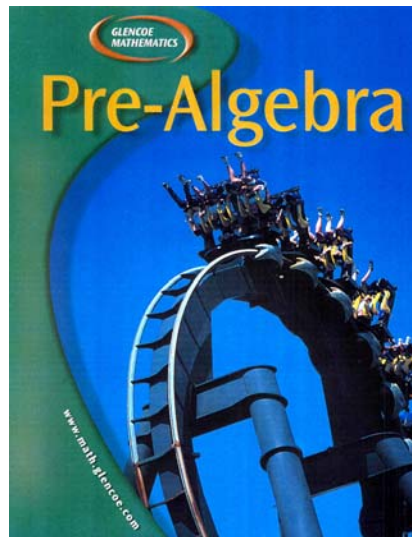


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correlated to

**Alabama
Course of Study:
Eighth Grade (Pre-Algebra)**

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CORRELATED TO

**ALABAMA
COURSE OF STUDY: EIGHTH GRADE (PRE-ALGEBRA)**

OBJECTIVES	PAGE REFERENCES
Number and Operations	
Students will:	
1. Use various strategies and operations to solve problems involving real numbers.	
<ul style="list-style-type: none"> • Using alternative representations of rational numbers 	SE: 200–204, 205–209, 210–214, 215–219, 220–223, 232–236 TWE: 200–204, 205–209, 210–214, 215–219, 220–223, 232–236
<ul style="list-style-type: none"> • Applying GCF, LCM, and prime and composite numbers, including justification for the reasonableness of results, when working with rational numbers 	SE: 159, 161–162, 164–168, 192–193, 199, 214, 226–230, 236, 252, 257, 285 TWE: 159, 161–162, 164–168, 192–193, 199, 214, 226–230, 236, 252, 257, 285
<ul style="list-style-type: none"> • Applying proportional reasoning 	SE: 262, 270–274, 280, 285, 317, 413, 440, 473–474, 553, 582, 599, 677, 747 TWE: 262, 270–274, 280, 285, 317, 413, 440, 473–474, 553, 582, 599, 677, 747
<ul style="list-style-type: none"> • Using vocabulary associated with sets, including <i>union</i> and <i>intersection</i> 	The opportunity to address this objective is available. See the following: SE: 56, 102, 164-165, 441-445, 733 TWE: 56, 102, 164-165, 441-445, 733
<ul style="list-style-type: none"> • Determining whether a number is rational or irrational 	SE: 206–207, 441-445 TWE: 206–207, 441-445
<ul style="list-style-type: none"> • Demonstrating computational fluency with operations on rational numbers 	SE: 199–204, 205–209, 210–214, 215–219, 220–223, 232–236, 244–247 TWE: 199–204, 205–209, 210–214, 215–219, 220–223, 232–236, 244–247

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OBJECTIVES	PAGE REFERENCES
2. Simplify expressions containing natural number exponents by applying one or more of the laws of exponents.	
<ul style="list-style-type: none"> • Writing numbers using scientific notation 	SE: 186–190, 194–195, 204, 268, 733 TWE: 186–190, 194–195, 204, 268, 733
3. Use order of operations to evaluate and simplify algebraic expressions.	
<ul style="list-style-type: none"> • Applying the substitution principle 	SE: 12, 107, 154–155, 724, 726–727, 731–732 TWE: 12, 107, 154–155, 724, 726–727, 731–732
<ul style="list-style-type: none"> • Applying the properties of operations on rational numbers to evaluate and simplify algebraic expressions 	SE: 12, 104, 107, 114, 154–155, 497, 525, 724, 725–728, 731–732 TWE: 12, 104, 107, 114, 154–155, 497, 525, 724, 725–728, 731–732
Algebra	
4. Graph linear relations by plotting points or by using the slope and y-intercept.	
<ul style="list-style-type: none"> • Determining slopes and y-intercepts of lines 	SE: 387–391, 397–401, 404, 406–408, 412–413, 418, 427, 429, 639, 696, 742–743 TWE: 387–391, 397–401, 404, 406–408, 412–413, 418, 427, 429, 639, 696, 742–743
<ul style="list-style-type: none"> • Calculating the slope of a linear relation given as a table or graph 	SE: 387–392, 393–397, 398–401, 404–408 TWE: 387–392, 393–397, 398–401, 404–408
<ul style="list-style-type: none"> • Exhibiting conceptual understanding of various uses of variables 	SE: 17–19, 21, 28, 30–31, 48–49, 328–329, 330–333, 360, 375–379, 425, 725 TWE: 17–19, 21, 28, 30–31, 48–49, 328–329, 330–333, 360, 375–379, 425, 725

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OBJECTIVES	PAGE REFERENCES
5. Solve problems involving linear functions.	
<ul style="list-style-type: none"> • Identifying functions from information in tables, sets of ordered pairs, equations, graphs, and mappings 	SE: 369–374, 375–379, 424, 537, 687–691, 692–696, 741 TWE: 369–374, 375–379, 424, 537, 687–691, 692–696, 741
<ul style="list-style-type: none"> • Determining the rule that defines a function 	SE: 368, 369–372 TWE: 368, 369–372
<ul style="list-style-type: none"> • Classifying variables in a function as independent or dependent 	The opportunity to address this objective is available. See the following: SE: 35-37, 368, 369–372 TWE: 35-37, 368, 369–372
<ul style="list-style-type: none"> • Classifying relations as linear or nonlinear by examining tables, graphs, or simple equations 	SE: 375-379, 687–691, 700–701 TWE: 375-379, 687–691, 700–701
6. Solve multistep linear equations, including equations requiring the use of the distributive property.	SE: 120–122, 140, 327, 334–335, 354, 451 TWE: 120–122, 140, 327, 334–335, 354, 451
Geometry	
7. Solve problems using the Pythagorean Theorem.	
<ul style="list-style-type: none"> • Applying the Triangle Inequality Theorem 	The opportunity to address this objective is available. See the following: SE: 453–459 TWE: 453–459
<ul style="list-style-type: none"> • Verifying the Pythagorean Theorem 	SE: 458–459, 460–464 TWE: 458–459, 460–464

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OBJECTIVES	PAGE REFERENCES
<ul style="list-style-type: none"> • Applying the Pythagorean Theorem to determine if a triangle is a right triangle 	SE: 460–464 TWE: 460–464
<ul style="list-style-type: none"> • Applying the Pythagorean Theorem to find the missing length of a side of a right triangle 	SE: 460–464, 465 TWE: 460–464, 465
<ul style="list-style-type: none"> • Calculating distances on the coordinate plane using the Pythagorean Theorem 	SE: 466–470, 485–486 TWE: 466–470, 485–486
8. Compare quadrilaterals, triangles, and solids, using their properties and characteristics.	
<ul style="list-style-type: none"> • Developing mathematical arguments about the relationships among types of quadrilaterals and triangles 	SE: 453–457, 513–517, 531 TWE: 453–457, 513–517, 531
<ul style="list-style-type: none"> • Identifying angle bisectors, perpendicular bisectors, congruent angles, and congruent figures 	SE: 493, 500–504, 545, 748 TWE: 493, 500–504, 545, 748
<ul style="list-style-type: none"> • Constructing congruent and similar polygons, congruent angles, congruent segments, and parallel and perpendicular lines 	SE: 498–499 TWE: 498–499
Measurement	
9. Determine the measures of special angle pairs, including adjacent, vertical, supplementary, and complementary angles, and angles formed by parallel lines cut by a transversal.	SE: 476, 492–494, 495–496, 517, 544, 549, 747 TWE: 476, 492–494, 495–496, 517, 544, 549, 747
10. Find the perimeter and area of regular and irregular plane figures.	SE: 132-134, 137, 209, 518-525, 533-537, 539–543 TWE: 132-134, 137, 209, 518-525, 533-537, 539–543

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OBJECTIVES	PAGE REFERENCES
11. Determine the surface area and volume of rectangular prisms, cylinders, and pyramids.	
<ul style="list-style-type: none"> • Estimating surface area and volume of solid figures 	SE: 563–567, 568–572, 573–577, 578–582 TWE: 563–567, 568–572, 573–577, 578–582
<ul style="list-style-type: none"> • Determining the appropriate units of measure to describe surface area and volume 	SE: 157, 563–567, 568–572, 573–577, 596–597, 616, 694, 750–751 TWE: 157, 563–567, 568–572, 573–577, 596–597, 616, 694, 750–751
<ul style="list-style-type: none"> • Developing formulas for determining surface area and volume of rectangular prisms, cylinders, and pyramids 	SE: 563–567, 568–572, 573–577, 578–582, 596 TWE: 563–567, 568–572, 573–577, 578–582, 596
12. Determine the lengths of missing sides and measures of angles in similar and congruent figures.	
<ul style="list-style-type: none"> • Applying proportional reasoning 	SE: 262, 270–274, 280, 285, 317, 413, 440, 470, 473–474, 553, 582, 599, 677, 737, 747 TWE: 262, 270–274, 280, 285, 317, 413, 440, 470, 473–474, 553, 582, 599, 677, 737, 747
<ul style="list-style-type: none"> • Using dilations on the coordinate plane to determine measures of similar figures 	SE: 512 TWE: 512
<ul style="list-style-type: none"> • Finding the ratios of the perimeters and areas of similar triangles, trapezoids, and parallelograms 	The opportunity to address this objective is available. See the following: SE: 525, 583, 584–588 TWE: 525, 583, 584–588

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OBJECTIVES	PAGE REFERENCES
Data Analysis and Probability	
13. Interpret data from populations, using given and collected data.	
<ul style="list-style-type: none"> • Representing the data with the most appropriate graph, including box-and-whisker plot, circle graph, and scatterplot 	SE: 39, 40–43, 45–46, 50, 71, 68, 107, 408, 410–412, 427, 429, 606–611, 623–629, 633, 658–660, 726, 753 TWE: 39, 40–43, 45–46, 50, 71, 68, 107, 408, 410–412, 427, 429, 606–611, 623–629, 633, 658–660, 726, 753
<ul style="list-style-type: none"> • Making predictions by estimating the line of best fit from a scatterplot 	SE: 39–43, 45–46, 50, 61, 68, 107, 408, 410–412, 422, 427, 429, 726 TWE: 39–43, 45–46, 50, 61, 68, 107, 408, 410–412, 422, 427, 429, 726
<ul style="list-style-type: none"> • Comparing data sets involving two populations 	SE: 237, 238–242, 269 TWE: 237, 238–242, 269
<ul style="list-style-type: none"> • Determining the measure of center that is the most appropriate for a given situation 	SE: 82, 92, 238–240, 248, 252, 258, 605, 611, 615, 618, 735 TWE: 82, 92, 238–240, 248, 252, 258, 605, 611, 615, 618, 735
14. Determine the theoretical probability of an event.	
<ul style="list-style-type: none"> • Calculating the probability of complementary events and mutually exclusive events 	SE: 313, 650–655 TWE: 313, 650–655
<ul style="list-style-type: none"> • Comparing experimental and theoretical probability 	SE: 311–312, 315 TWE: 311–312, 315

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OBJECTIVES	PAGE REFERENCES
<ul style="list-style-type: none">• Computing the probability of two independent events and two dependent events	SE: 650–655 TWE: 650–655
<ul style="list-style-type: none">• Determining the probability of an event through simulation	SE: 315, 656–657 TWE: 315, 656–657

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