

Louisiana Grade 10 Standards to CORD Geometry, 2nd Edition

Book Title: CORD Geometry, 2nd Edition **Grade Level:** 10

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Grade 10

Number and Number Relations

In problem-solving investigations, students demonstrate an understanding of the real number system and communicate the relationships within that system using a variety of techniques and tools.

Students use estimation, mental arithmetic, number lines, graphs, appropriate models, manipulatives, calculators, and computers as they extend their investigations of problems involving real numbers.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
1. Simplify and determine the value of radical expressions (N-2-H) (N-7-H)	Page or Location: 341-347, 390-392, 400, 421-428
2. Predict the effect of operations on real numbers (e.g., the quotient of a positive number divided by a positive number less than 1 is greater than the original dividend) (N-3-H) (N-7-H)	Page or Location: None
3. Define <i>sine</i> , <i>cosine</i> , and <i>tangent</i> in ratio form and calculate them using technology (N-6-H)	Page or Location: 354-360, 361-366, 375, 380, 386, 387, 491, 496, 529, 718-720
4. Use ratios and proportional reasoning to solve a variety of real-life problems including similar figures and scale drawings (N-6-H) (M-4-H)	Page or Location: 65, 102, 269, 310-315, 316-322, 323-330, 331-334, 335-340, 348-353, 354-360, 361-366, 367-369, 371-372, 373-387, 424, 464, 470, 487-491, 512, 524, 603, 611, 621, 632-636, 641, 660, 662, 705, 718-720

Algebra

In problem-solving investigations students demonstrate an understanding of concepts and processes that allow them to analyze, represent, and describe relationships among variable quantities and to apply algebraic methods to real-world situations.

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Students use manipulatives, models, graphs, tables, technology, number sense, and estimation as they extend their investigations of problems involving the concepts and application of algebra.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
5. Write the equation of a line of best fit for a set of 2-variable real-life data presented in table or scatter plot form, with or without technology (A-2-H) (D-2-H)	Page or Location: 416-418, 420, 447
6. Write the equation of a line parallel or perpendicular to a given line through a specific point (A-3-H) (G-3-H)	Page or Location: 142-147, 183, 414-420, 444-455, 496, 549, 563, 588, 631, 680

Measurement

In problem-solving investigations, students demonstrate an understanding of the concepts, processes, and real-life applications of measurement.

Students use number sense, estimation, appropriate manipulatives, tools, and technology as they extend their investigations of problems involving measurement.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
7. Find volume and surface area of pyramids, spheres, and cones (M-3-H) (M-4-H)	Page or Location: 612-618, 619-624, 626-631, 650-662, 673, 693
8. Model and use trigonometric ratios to solve problems involving right triangles (M-4-H) (N-6-H)	Page or Location: 354-360, 361-366, 375, 380, 386, 387, 491, 496, 529, 718-720

Geometry

In problem-solving investigations, students demonstrate an understanding of geometric concepts and applications involving one-, two-, and three-dimensional geometry, and justify their findings.

Students use number sense, estimation, models, drawings, manipulatives, and technology as they extend their investigations of problems involving geometric concepts.

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GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
9. Construct 2- and 3-dimensional figures when given the name, description, or attributes, with and without technology (G-1-H)	Page or Location: 43, 48-50, 178, 207, 211, 223, 231, 267, 278, 281, 285-286, 319-320, 323, 324-325, 335, 501-503, 531, 582-588, 589-595, 597-599, 612-613, 620, 643-646, 647-649, 654, 657, 669, 676, 682-683
10. Form and test conjectures concerning geometric relationships including lines, angles, and polygons (i.e., triangles, quadrilaterals, and n -gons), with and without technology (G-1-H) (G-4-H) (G-6-H)	Page or Location: 23, 24, 32-34, 44-45, 68, 71-73, 75, 78, 87-88, 105, 120-121, 122, 136, 149, 163-164, 172, 179, 231, 236, 239-241, 262, 263, 265, 279, 281, 287, 291-292, 318, 319, 323-325, 341, 349, 353, 354, 415, 427, 469, 583, 525, 528, 542-544, 551, 553, 557, 558, 605, 606, 618, 638, 699, 700, 708
11. Determine angle measurements using the properties of parallel, perpendicular, and intersecting lines in a plane (G-2-H)	Page or Location: 24, 26-29, 35, 43, 65, 76, 104-105, 110-114, 122, 148-154, 159-161, 192, 198, 223, 277, 284, 347, 563
12. Apply the Pythagorean theorem in both abstract and real-life settings (G-2-H)	Page or Location: 341-347, 360, 369-371, 373-387, 391, 407, 411, 473, 474, 504, 512, 537, 545, 576, 631, 653, 656
13. Solve problems and determine measurements involving chords, radii, arcs, angles, secants, and tangents of a circle (G-2-H)	Page or Location: 481-486, 488, 490, 493-494, 496, 499-501, 506-515, 523, 525-532, 533-541, 542-549, 550-556, 565-567, 567-570, 571-579, 596-604, 605-611, 618, 619-625, 652, 656, 659, 662, 673, 680, 693, 697
14. Develop and apply coordinate rules for translations and reflections of geometric figures (G-3-H)	Page or Location: 698-704, 723, 729
15. Draw or use other methods, including technology, to illustrate dilations of geometric figures (G-3-H)	Page or Location: 705-711, 716-718, 718-720, 725-730

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GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
16. Represent and solve problems involving distance on a number line or in the plane (G-3-H)	Page or Location: 13-18, 390-396, 397-404, 411, 421, 424, 427, 432, 435, 436, 438-439, 441-443, 445-456, 469, 506, 636
17. Compare and contrast inductive and deductive reasoning approaches to justify conjectures and solve problems (G-4-H) (G-6-H)	Page or Location: 68-73, 74-79, 123-124, 132, 136, 194, 198
18. Determine angle measures and side lengths of right and similar triangles using trigonometric ratios and properties of similarity, including congruence (G-5-H) (M-4-H)	Page or Location: 205, 208, 218-223, 224-230, 231-236, 239-241, 242-253, 302, 316-322, 323-330, 331-334, 335-340, 348-353, 354-360, 361-366, 367-369, 369-371, 371-372, 373-387, 396, 424, 448, 451, 478, 487-491, 496, 505, 512, 524, 529, 532, 541, 577, 603, 611, 617, 618, 625, 641, 687, 711 718-720
19. Develop formal and informal proofs (e.g., Pythagorean theorem, flow charts, paragraphs) (G-6-H)	Page or Location: 90, 91-92, 94, 97, 98, 102, 104, 105, 108, 109, 113, 114, 134, 135, 136, 147, 157, 158, 160, 173-178, 186-187, 194, 197, 200, 220-221, 222, 224, 227, 229, 230, 232, 233, 265, 274, 275, 278, 280, 286, 315, 326, 329, 341-342, 344, 350, 404, 408, 422, 423, 424, 437, 464, 472, 473, 474, 480, 531, 540, 547, 551, 556

Data Analysis, Probability, and Discrete Math

In problem-solving investigations, students discover trends, formulate conjectures regarding cause-and-effect relationships, and demonstrate critical thinking skills in order to make informed decisions.

Students use collection and organizational techniques, number sense, estimation, manipulatives, and technology as they extend their investigations of problems involving data.

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GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
20. Show or justify the correlation (match) between a linear or non-linear data set and a graph (D-2-H) (P-5-H)	Page or Location: 416-418, 420, 447
21. Determine the probability of conditional and multiple events, including mutually and non-mutually exclusive events (D-4-H) (D-5-H)	Page or Location: 492-496, 510, 513, 515, 548, 630, 711
22. Interpret and summarize a set of experimental data presented in a table, bar graph, line graph, scatter plot, matrix, or circle graph (D-7-H)	Page or Location: 57, 58, 402, 403, 416-418, 420, 445, 447, 493, 534-535, 539, 540, 595
23. Draw and justify conclusions based on the use of logic (e.g., conditional statements, converse, inverse, contrapositive) (D-8-H) (G-6-H) (N-7-H)	Page or Location: 68-73; 74-79, 80-84, 85-88, 89-94, 123-137, 154, 161, 366, also the students are given the opportunity to draw conclusions in many of the activities in the lessons and Math Labs at the end of each chapter. See for example, pages 23, 32, 44-45, 105, 120-121, 122, 149, 163, 172, 231, 239-241, 262, 281, 291-292, 318, 349, 415, 483, 542, 605, 699, 708
24. Use counting procedures and techniques to solve real-life problems (D-9-H)	Page or Location: None
25. Use discrete math to model real life situations (e.g., fair games, elections) (D-9-H)	Page or Location: None

Patterns, Relations, and Functions

In problem-solving investigations, students demonstrate an understanding of patterns, relations, and functions that represent and explain real-world situations.

Students use number sense, estimation, manipulatives, drawings, tables, graphs, formulas, and technology as they extend their investigations of problems involving patterns, relations, and functions.

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GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
26. Generalize and represent patterns symbolically, with and without technology (P-1-H)	Page or Location: 41, 68-73, 84
27. Translate among tabular, graphical, and symbolic representations of patterns in real-life situations, with and without technology (P-2-H) (P-3-H) (A-3-H)	Page or Location: none