GLENCOE CORRELATION
ADVANCED MATHEMATICAL CONCEPTS
PRECALCULUS WITH APPLICATIONS © 2001
WYOMING
Grade 11 Mathematics

OBJECTIVES	PAGE REFERENCES
1. NUMBER OPERATIONS AND CONCEPTS	
Students use numbers, number sense, and number relationships in a problem-solving situation. Students communicate the reasoning used in solving these problems.	
1. Students represent, use, and apply numbers in a variety of forms including rational, radical, and exponential expressions.	SE: 243-249, 695-702 TWE: 5MC 251, 258 IE 244, 245, 696, 697, 698
2. Students apply the structure and properties of the real number system including the use of opposites, reciprocals, estimation, and absolute value.	SE: 206
2. GEOMETRY	
Students apply geometric concepts, properties, and relationships in a problem-solving situation. Students communicate the reasoning used in solving these problems.	
1. Students use transformations, congruency, symmetry, similarity, perpendicularity, and parallelism to solve problems.	SE: 32-37, 88-95, 127-135, 535-542, 670-677 TWE: 5MC 38, 98, 137, 678 IE 34, 128, 536, 538, 672
2. Students identify and apply scale factors, ratios, and proportions to length, area, and volume.	SE: 88-95, 189-196, 786-793 TWE: 5MC 98, 794 IE 92, 190, 787, 789
3. Students communicate, using mathematical language, to: • Interpret, represent, or create geometric figures; • Draw or build figures from a mathematical description; • Give a precise geometric description of a physical object.	See Glencoe's *Geometry: Concepts and Applications* © 2001 SE: 402-407, 496-501 *Communicating Mathematics* 508, 531, 537 TWE: F 504
4. Students apply the Pythagorean theorem and right-triangle trigonometry in a variety of situations (sine, cosine, and tangent ratios).	SE: 284-290, 291-298, 299-304, 305-311 TWE: 5MC 291, 299, 305 IE 285, 286, 292, 293, 294
5. Students formulate conjectures through inductive reasoning, verify conjectures through deductive reasoning, construct and present a valid argument, and use counter examples to invalidate arguments.	SE: *Communicating Mathematics* 82, 156, 165, 226, 308
6. Students connect geometry with other mathematical topics.	SE: 71, 104, 144, 179, 782

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3. MEASUREMENT	
Students use a variety of tools and techniques of measurement in a problem-solving situation. Students communicate the reasoning used in solving these problems.	
1. Students apply the appropriate methods and units to solve problems involving length, weight, area, volume, and angle measure.	SE: 277-282, 313-317, 615-621 TWE: 5MC 284, 320, 623 IE 278, 279, 315, 616
2. Students understand the structure of standard measurement systems both metric and U.S. customary including derived units, and within system unit conversion.	See Glencoe's *Geometry: Concepts and Applications* © 2001 SE: 56-61 TWE: F 62
4. ALGEBRAIC CONCEPTS AND RELATIONSHIPS	
Students use algebraic methods to investigate, model, and interpret patterns and functions involving numbers, shapes, data, and graphs in a problem-solving situation. Students evaluate and communicate the reasoning used in solving these problems.	
1. Students use algebraic concepts, symbols, and skills to analyze, represent, and solve consumer and professional problems including mortgages and compound interest, rate-time-distance relationships, and profit and loss.	SE: 67-72, 142, 157, 707-710 *Internet Project* 201 TWE: 5MC 73 IE 69, 706 IP 201 ML 67
2. Students write, model, and evaluate expressions, functions, systems, and inequalities.	SE: 52-56, 67-72, 73-77, 107-111, 112-118, 213-220 TWE: 5MC 67, 73, 112, 222 IE 54, 68, 69, 75, 108, 109, 114, 215
3. Students use linear, inverse, and quadratic relationships to solve problems involving practical applications.	SE: 38-44, 213-220, 258-264, 740-748 TWE: 5MC 45, 222 IE 39, 215, 260, 741, 742
4. Students graph linear equations and interpret the results to solve algebra problems.	SE: 20-25, 67-72, 73-77 TWE: 5MC 27, 73 IE 21, 22, 68, 69, 74
5. Students connect algebra with other mathematical topics.	SE: 493-498 TWE: 5MC 500 IE 494
5. STATISTICS AND PROBABILITY	
Students use statistics and probability to analyze given situations and the results of experiments. Students communicate the reasoning used in arriving at a conclusion.	
1. Students apply knowledge of statistical indicators to interpret and evaluate information and data for reasonableness, reliability, accuracy, and bias to make informed decisions.	SE: *Critical Thinking* 895
2. Students draw valid inferences from statistical data to predict likely outcomes.	SE: 38-44, 475, 740-747 *Internet Project* 833, 937 TWE: 5MC 38, 39, 741, 742 IP 833, 937
3. Students determine the probability of independent and dependent events.	SE: 837-845, 846-850, 852-857, 859-867 TWE: 5MC 846, 852, 859 IE 838, 840, 847, 853, 860

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4. Students solve problems using fundamental methods of combinations and permutations.	SE: 846, 851 TWE: 5MC 852 IE 847, 848
5. Students determine whether to use theoretical or experimental probability to represent and solve a problem involving uncertainty.	SE: 852-857, 859-867, 868-874 TWE: 5MC 859, 868, 875 IE 853, 854, 855, 869
6. TOOLS AND TECHNOLOGY	
Students use appropriate tools and technologies to model, measure, and apply the results in a problem-solving situation. Students communicate the reasoning used in solving these problems.	
1. Students select and use appropriate calculator /computer technology including spreadsheets, graphing calculators, and geometric modeling and algebra software to accurately model and solve consumer and professional problems.	SE: 232-233, 323, 602-604 *Internet Connection* 470, 604 TWE: RM 837
2. Students select and use appropriate manipulatives including 3D and 2D models, algebra tiles, Mira devices, patty paper, dice and cards.	See Glencoe's *Geometry: Concepts and Applications* © 2001 SE: *Hands-On Geometry* 203, 415, 425, 469, 510, 522 TWE: F 203
7. PROBLEM SOLVING AND MATHEMATICAL REASONING	
Students apply a variety of problem-solving strategies to investigate and solve problems from across the curriculum as well as from practical applications.	
1. Students identify a problem to be solved mathematically from a real-life situation in business, personal finance, health care, or industry.	SE: 493-498
2. Students determine, collect, and organize the relevant data needed to make decisions regarding personal and professional situations.	SE: *Internet Project* 123, 201, 885, 937 TWE: IP 123, 201, 885, 937
3. Students demonstrate strategies for solving multiple-step problems.	SE: 111, 116-118, 178, 195-196, 248-249 TWE: IE 113, 114, 142, 244
4. Students demonstrate logical reasoning, both inductive and deductive.	SE: *Critical Thinking* 18, 84 *Communicating Mathematics* 109, 165, 226
5. Students communicate mathematically to explain reasoning, verify results, and write solutions in a quantitative form.	SE: *Communicating Mathematics* 17, 176, 185, 209 *Portfolio* 123

Codes Used for TWE Pages

5MC	5 Minute Check
IE	In-Class Example
IP	Internet Project
ML	Motivating the Lesson
RM	Reproducible Masters