

**GLENCOE CORRELATION**  
**ALGEBRA: CONCEPTS AND APPLICATIONS © 2001**  
**WYOMING**  
**Grade 11 Mathematics**

OBJECTIVES	PAGE REFERENCES
<b>1. NUMBER OPERATIONS AND CONCEPTS</b>	
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: 94-103, 140-145, 336-337, 357-365, 600-605, 614-619, 638-639 TWE: PA 97 ML 140 ICE 337
2. Students apply the structure and properties of the real number system including the use of opposites, reciprocals, estimation, and absolute value.	SE: 14-25, 55-56, 128-131, 154-158, 362-365, 614-615 <i>Investigation 674-675</i>
<b>2. GEOMETRY</b>	
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: 322-327, 371, 508, 611, 619 <i>Investigation 410-411</i> <i>Problem-Solving Workshop 187</i>
2. Students identify and apply scale factors, ratios, and proportions to length, area, and volume.	SE: 188-193, 194-197, 571 <i>Problem-Solving Workshop 187, 419</i> <i>Investigation 410-411, 494-495</i> TWE: ML 194
3. Students communicate, using mathematical language, to: <ul style="list-style-type: none"> <li>• Interpret, represent, or create geometric figures;</li> <li>• Draw or build figures from a mathematical description;</li> <li>• Give a precise geometric description of a physical object.</li> </ul>	SE: 27, 63, 169, 194-197, 201, 366-369, 437 <i>Investigation 30-31, 426-427</i> <i>Problem-Solving Workshop 419</i> TWE: EC 197
4. Students apply the Pythagorean theorem and right-triangle trigonometry in a variety of situations (sine, cosine, and tangent ratios).	SE: 366-369, 691 <i>Investigation 372-373</i>
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: <i>Investigation 30-31, 410-411</i>
6. Students connect geometry with other mathematical topics.	SE: <i>Math in the Workplace 336, 399, 440, 464, 488</i>

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<b>3. MEASUREMENT</b>	
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: 15, 29, 179, 194-197, 307, 360-361, 517, 649 <i>Investigation</i> 262-263 TWE: RA 532 EC 534
2. Students understand the structure of standard measurement systems both metric and U.S. customary including derived units, and within system unit conversion.	SE: 190, 203, 217, 267, 301, 344
<b>4. ALGEBRAIC CONCEPTS AND RELATIONSHIPS</b>	
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: 29, 205, 213, 273, 354, 606-611 <i>Problem-Solving Workshop</i> 3, 93, 457 TWE: EC 121 FA 213
2. Students write, model, and evaluate expressions, functions, systems, and inequalities.	SE: 4-7, 69, 95, 256-261, 504-518, 550-559 <i>Problem-Solving Workshop</i> 237, 457, 503, 549
3. Students use linear, inverse, and quadratic relationships to solve problems involving practical applications.	SE: 67, 72, 250-251, 391, 464-487 <i>Math in the Workplace</i> 70 TWE: ML 70, 250 ICE 251
4. Students graph linear equations and interpret the results to solve algebra problems.	SE: 250-255, 310-315, 316-321 <i>Investigation</i> 308-309 TWE: ML 316
5. Students connect algebra with other mathematical topics.	SE: 259, 265, 289 <i>Math in the Workplace</i> 4, 218, 503 TWE: EC 289 ML 290
<b>5. STATISTICS AND PROBABILITY</b>	
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: 32-37, 38-43, 104-109, 302-307 <i>Investigation</i> 80-81, 210-211, 308-309, 578-579 <i>Problem-Solving Workshop</i> 93 TWE: FA 108 EC 131
2. Students draw valid inferences from statistical data to predict likely outcomes.	SE: 38-43, 146-151, 219-223, 361 <i>Problem-Solving Workshop</i> 139 <i>Investigation</i> 308-309

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3. Students determine the probability of independent and dependent events.	SE: 224-225, 406 TWE: TT 225 FA 437
4. Students solve problems using fundamental methods of combinations and permutations.	SE: <i>Investigation</i> 152-153
5. Students determine whether to use theoretical or experimental probability to represent and solve a problem involving uncertainty.	SE: 219-223, 649 TWE: ICE 221
<b>6. TOOLS AND TECHNOLOGY</b>	
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: 26, 105, 177, 194-197, 271-272 <i>Problem-Solving Workshop</i> 3, 93, 139, 335 <i>Investigation</i> 152-153, 210-211, 308-309 TWE: RA 114, 369 Mo 361, 371
2. Students select and use appropriate manipulatives including 3D and 2D models, algebra tiles, Mira devices, patty paper, dice and cards.	SE: 25, 64-66, 117-120, 177, 619 <i>Problem-Solving Workshop</i> 599 <i>Investigation</i> 372-373, 426-427 TWE: ML 75, 120, 347 Mo 131, 151 EC 197
<b>7. PROBLEM SOLVING AND MATHEMATICAL REASONING</b>	
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: 24-29, 67, 206, 307 <i>Problem-Solving Workshop</i> 93, 283, 381, 457 <i>Investigation</i> 674-675
2. Students determine, collect, and organize the relevant data needed to make decisions regarding personal and professional situations.	SE: 32-37, 38-43, 104-109, 175 <i>Problem-Solving Workshop</i> 93, 237, 283 <i>Investigation</i> 210-211, 308-309 TWE: ICE 39 ML 104
3. Students demonstrate strategies for solving multiple-step problems.	SE: 165-170, 208 <i>Investigation</i> 674-675 TWE: EC 170
4. Students demonstrate logical reasoning, both inductive and deductive.	SE: <i>Investigation</i> 30-31
5. Students communicate mathematically to explain reasoning, verify results, and write solutions in a quantitative form.	SE: 24-29, 307 <i>Investigation</i> 30-31, 308-309, 674-675 <i>Problem-Solving Workshop</i> 237, 283, 335

## Codes Used for TWE Pages

EC	Extra Credit
FA	Family Activity
ICE	In-Class Examples
ML	Motivating the Lesson
PA	Practice/Apply
RA	Reteaching Activity
Mo	Modeling
TT	Teaching Tip