



WYOMING
Mathematics Content and Performance Standards – Grade 11
Algebra 1 © 2005

BENCHMARKS	PAGE REFERENCES
1. NUMBER OPERATIONS AND CONCEPTS	
Students use numbers, number sense, and number relationships in a problem-solving situation.	
1. Students represent and apply real numbers in a variety of forms.	SE: 68-72, 73-78, 79-83, 84-87, 110 #9-#11, 111 #16-#36, 115 #17-#18 TWE: A 72, 83, 87
2. Students apply the structure and properties of the real number system.	SE: 68, 70 #1, 104, 107 #2, 114 #64-#66, 115 #2 TWE: ICE 104
3. Students explain their choice of estimation and problem-solving strategies and justify results of solutions in problem-solving situations involving real numbers.	SE: 18 ex 4, 535 ex 5
4. Students use proportional reasoning to solve problems.	SE: 155-159, 164 #53-#55, 170 #49-#51, 182 #39-#44, 185 #21-#23, 186 #7, 187 #18 TWE: A 159 H 155
2. GEOMETRY	
Students apply geometric concepts, properties, and relationships in a problem-solving situation.	
1. Students use transformations, congruency, symmetry, similarity, perpendicularity, parallelism, and the Pythagorean Theorem to solve problems.	SE: 197-203, 211 #57-#59, 217 #59-#60, 247 #17-#20, 251 #6-#7, 605-610 TWE: A 203, 610 DI 198, 199
2. Students communicate, using mathematical language, to: <ul style="list-style-type: none"> • Interpret, represent, or create geometric figures; • Draw or build figures from a mathematical description; • Analyze properties and determine attributes of 2- and 3-dimensional objects. 	SE: 810-811, 812-813 <i>Algebra Activity</i> 122, 293, 501
3. Students communicate the reasoning used in identifying geometric relationships in problem-solving situations.	SE: <i>Algebra Activity</i> 122, 293, 501
4. Students solve problems involving the coordinate plane such as the distance between two points, the midpoint, and slope.	SE: 196 #48-#50, 611-615, 621 #39-#42, 630 #72-#73, 635 #41-#50, 637 #19-#21 TWE: A 615 DI 612, 613 H 611

BENCHMARKS	PAGE REFERENCES
5. Students connect geometry with other mathematical topics.	SE: 605-610, 611-615, 616-621, 623-630, 637 #19-#21, 638 #8 TWE: A 610, 621, 630 DI 618
3. MEASUREMENT Students use a variety of tools and techniques of measurement in a problem-solving situation.	
1. Students apply estimation and measurement using the appropriate methods and units to solve problems involving length, weight/mass, area, surface area, volume, and angle measure.	SE: 124-125, 134 #69-#70, 140 #1-#2, 414 #46-#48, 415 #60, 456 #53, 817 <i>Algebra Activity</i> 122, 416 TWE: TT 122
2. Students demonstrate an understanding of both metric and U.S. customary systems. Students are able to convert within each system.	SE: 656 ex 3, 661 ex 5
3. Students identify and apply scale, ratios, and proportions in solving measurement problems.	SE: 157 ex 5, 159 #31-#34, 165, 186 #7, 616-621, 630 #70-#71, 636 #51-#54, 637 #22-#25 TWE: A 621 H 155
4. Students solve problems of angle measure including those involving polygons or parallel lines cut by a transversal.	SE: 47 #17-#19, 457 #63-#64, 775 #41-#43
5. Students solve indirect measurement problems.	SE: 159 #31-#34, 165, 186 #7, 616-621, 626 ex 5, 629 #61-#62, 630 #63-#64 TWE: DI 618 H 155, 616
4. ALGEBRA Students use algebraic methods to investigate, model, and interpret patterns and functions involving numbers, shapes, data, and graphs in a problem-solving situation.	
1. Students use algebraic concepts, symbols, and skills to represent and solve real-world problems.	SE: 205-211, 212-217, 218-223, 248 #21-#24, 251 #14-#16 <i>Graphing Calculator Investigation</i> 204, 224-225 TWE: A 217, 223 DI 215
2. Students write, model, and evaluate expressions, functions, equations, and inequalities.	SE: 141, 142-148, 149-154, 332-337, 351 #60-#67, 365 #13 TWE: A 148, 154, 337 CC 334 TT 333
3. Students graph linear equations and interpret the results in solving algebraic problems.	SE: 205-211, 212-217, 218-223, 248 #21-#24, 251 #14-#16 <i>Graphing Calculator Investigation</i> 204, 224-225 TWE: A 217, 223 DI 215
4. Students solve, graph, or interpret systems of linear equations.	SE: 369-374, 375, 376-381, 382-386, 387-392, 394-398, 399-402 TWE: A 374, 381, 386

BENCHMARKS	PAGE REFERENCES
5. Students connect algebra with other mathematical topics.	SE: 122 ex 3, 125 #37, 132 #41-#42, 144 ex 6, 147 #49, 153 #42-#43, 168 #10-#12, 169 #34-#35, 623-630 TWE: H 623
5. DATA ANALYSIS AND PROBABILITY Students use data analysis and probability to analyze given situations and the results of experiments.	
1. Students apply knowledge of mean, median, mode, and range to interpret and evaluate information and data.	SE: 67 #17-#19, 87 #74-#77, 90-94, 109 #84, 113 #51-#52, 115 #32, 116 #7, 818-819 TWE: A 94
2. Students draw reasonable inferences from statistical data and/or correlation/best fit line to predict outcomes.	SE: 298-305, 312 #66-#70, 313 #21-#24, 323 #59, 331 #61 <i>Graphing Calculator Investigation</i> 306-307 TWE: A 305, 307 TT 301
3. Students communicate about the likelihood of events using concepts from probability. <ul style="list-style-type: none"> • sample space • evaluate simple probabilities • evaluate experimental vs. theoretical 	SE: 96-101, 769-776, 777-781, 791 #18-#23, 793 #9-#12 TWE: A 776, 781 DI 98 H 96 TNT 97
4. Students determine, collect, organize, and analyze relevant data needed to make conclusions.	SE: 50-55, 56, 298-305, 722-728, 737-742, 747 #23-#24 <i>Algebra Activity</i> 299 TWE: A 55, 56, 305

Codes Used for TWE Pages

A	Assess
CC	Concept Check
DI	Daily Intervention
H	How
ICE	In Class Example
TNT	Tips for New Teachers
TT	Teaching Tip