



**WYOMING**  
**Mathematics Content and Performance Standards – Grade 7**  
***Mathematics: Applications and Concepts***  
**Course 2 © 2004**

BENCHMARKS	PAGE REFERENCES
<b>1. NUMBER OPERATIONS AND CONCEPTS</b>	
<b>Students use numbers, number sense, and number relationships in a problem-solving situation.</b>	
1. Students represent and order rational numbers that are greater than or equal to 0 in a variety of equivalent forms in problem-solving situations.	SE: 109-111, 124 #68, 143 #20-#29, 146 #7, 210 (WHEN), 227-231, 234 #64-#69, 237 #19 TWE: A 108, 111, 231 DI 228
2. Students use basic operations with integers in problem-solving situations.	SE: 120-124, 128-131, 134-137, 138-141, 144 <i>Hands-On Lab</i> 118-119, 126-127 TWE: ICE 122, 129 PS 145
3. Students divide decimal numbers by decimal numbers.	SE: <i>Prerequisite Skills</i> 562
4. Students explain their choice of estimation and problem-solving strategies and justify results when performing number operations with fractions and decimals in problem-solving situations appropriate to grade level. Students add and subtract fractions and mixed numbers.	SE: 240-243, 244-247, 248-251, 278, 279, 283 #12 <i>Problem-Solving Strategy</i> 252-253, 444 #11 TWE: A 243 DI 241, 249 ICE 245, 249 PC 238F
5. Students multiply and divide fractions and mixed numbers.	SE: 254-257, 261 #43, 262 #4, #13, #14, 264-266, 269 #26, 279, 280, 281 #5, #8, #9, #13, #14 <i>The Game Zone</i> 263 TWE: ICE 255, 265
6. Students evaluate whole numbers expressed in exponential form.	SE: 10-13, 17 #60-#63, 47 #8-#15, 63 #19-#22 TWE: ICE 11
7. Students apply the order of operations (whole numbers including grouping symbols and operations, excluding roots and powers) in problem-solving situations.	SE: 14-17, 21 #55-#58, 47 #17-#24, 79 #29-#32 TWE: A 17 DI 15 ICE 15 TNT 15

BENCHMARKS	PAGE REFERENCES
<b>2. GEOMETRY</b> <b>Students apply geometric concepts, properties, and relationships in a problem-solving situation.</b>	
1. Students classify and describe one- and two-dimensional geometric objects, including: <ul style="list-style-type: none"> <li>• lines, rays, segments, and angles;</li> <li>• parallel and perpendicular relationships; and</li> <li>• regular polygon types.</li> </ul>	SE: 410, 413-415, 422-425, 428-431, 434-437, 438 #12-#14, 446-450, 462-463, 464, 467 #18 <i>Hands-On Lab</i> 426-427, 432-433 <i>WebQuest</i> 409 TWE: A 415, 431, 437 B 413, 446 DI 434 ICE 423, 429, 435 PC 410F
2. Students make conjectures about geometric figures based on knowledge of congruence and similarity.	SE: 429, 440-443, 464 #21-#22, 466 #6, #7, #8 <i>Hands-On lab</i> 416-417 <i>Problem-Solving Stratgy</i> 444 <i>Study Tip</i> 429 TWE: ICE 441 TNT 440
3. Students communicate the reasoning used in identifying geometric relationships in problem-solving situations appropriate to grade level.	SE: 440-443, 449 #18-#20, 450 #31, 454 #18, 459 #23, 509 #20 <i>Hands-On Lab</i> 426-427, 432-433 <i>Hands-on MiniLab</i> 422, 428, 440 <i>WebQuest</i> 409 TWE: TNT 423
<b>3. MEASUREMENT</b> <b>Students use a variety of tools and techniques of measurement in a problem-solving situation.</b>	
1. Students apply estimation and measurement of length to content problems and convert within the U.S. customary (in, ft, yd, mi) and within the metric system (mm, cm, m, km).	SE: 38-41, 50 #3, 51 #18, 267-269, 273 #35-#38, 280 #54-#59, 282 #7, 300 #54-#56 TWE: ICE 268
2. Students apply estimation and measurement of weight to content problems expressing the results in metric units (g, kg).	SE: 38-41
3. Students apply estimation and measurement of capacity to content problems expressing the results in metric units (liters).	SE: 38-41, 51 #18
4. Students determine the circumference of a circle using models.	SE: 275-277, 280 #66-#69, 281 #24, 283 #16, 291 #42, 295 #36 <i>Hands-On Lab</i> 274 TWE: ICE 276 PS 281
5. Students calculate the areas of triangles and trapezoids.	SE: 489-492, 495 #34, 505 <i>Hands-On Lab</i> 488 TWE: A 492 DI 490 ICE 490
6. Students measure angles with a protractor.	SE: 414 Ex 3, 425 #28 <i>Hands-On Lab</i> 412 TWE: DI 413

BENCHMARKS	PAGE REFERENCES
<b>4. ALGEBRA</b> <b>Students use algebraic methods to investigate, model, and interpret patterns and functions involving numbers, shapes, data, and graphs in a problem-solving situation.</b>	
1. Students translate word phrases, which involve addition and subtraction, into mathematical expressions.	SE: 18-21, 28 #2, 33 #48, #50, 49 #25, 50 #3, 51 #4, 150-152, 163 #49, #50 <i>Study Skill</i> 153 TWE: DI 19, 150 ICE 19, 151
2. Students solve one-step linear equations.	SE: 177-181, 188, 190 #9, 191 #20 TWE: A 181
3. Students evaluate algebraic expressions and formulas, using order of operations, given positive integer values for variables.	SE: 4, 14-17, 18, 19, 28 #20, 47, 107, 148, 510 TWE: A 17 BI 15 ICE 15, 19
4. Students understand and use basic concepts of the coordinate system, including plotting points in all four quadrants.	SE: 112-115, 116 #3, 124 #64-#67, 131 #60, 143 #30-#37, 145 #10-#12, 146 #8, #9, 149 #20, 190 #6, 191 #13 <i>The Game Zone</i> 117 TWE: DI 113 ICE 113
<b>5. DATA ANALYSIS AND PROBABILITY</b> <b>Students use data analysis and probability to analyze given situations and the results of experiments.</b>	
1. Students systematically collect, organize, describe, and analyze data using histograms.	SE: 85-89, 98 #28-#29, 99 #15 <i>WebQuest</i> 3, 193 TWE: ICE 87
2. Students calculate mean, median, mode, and range for data sets and use in real-world setting.	SE: 69-72, 74 #9, #10, #14, 79 #26, #27, 97 #16-#19, 99 #7, #8, 105, 141 #36, 147 #17, 237 #11, #12 <i>Hands-On Lab</i> 73 <i>The Game Zone</i> 75 TWE: PC 52F
3. Students predict, compare, and report as ratios probable outcomes of experiments or simulations (i.e., impossible, equally likely, certain).	SE: 368, 370-373, 393-396, 398-401, 402, 404, 406 #8, 407 #16-#17, 415 #26, #28 <i>Problem-Solving Strategy</i> 391-392 <i>WebQuest</i> 285 TWE: A 401 ICE 371 PS 405

## Codes Used for TWE Pages

A	Assess
B	Bellringer
DI	Daily Intervention
ICE	In-Class Examples
PC	Project CRISS
PS	Portfolio Suggestion
TNT	Tips for New Teachers