



Math Connects

Concepts, Skills, and Problem Solving

Course 3
© 2009

STANDARDS	PAGE REFERENCES
<p>STANDARD 4.1 (NUMBER AND NUMERICAL OPERATIONS) ALL STUDENTS WILL DEVELOP NUMBER SENSE AND WILL PERFORM STANDARD NUMERICAL OPERATIONS AND ESTIMATIONS ON ALL TYPES OF NUMBERS IN A VARIETY OF WAYS.</p>	
<p>Building upon knowledge and skills gained in preceding grades, by the end of Grade 8, students will:</p>	
<p><u>Number Sense</u></p>	
<p>NUMBER SENSE</p>	
<ul style="list-style-type: none"> • Extend understanding of the number system by constructing meanings for the following: <ul style="list-style-type: none"> <input type="checkbox"/> Rational numbers <input type="checkbox"/> Percents <input type="checkbox"/> Whole numbers with exponents <input type="checkbox"/> Roots <input type="checkbox"/> Absolute values <input type="checkbox"/> Numbers represented in scientific notation 	<p>Student Edition: 35-39, 45 #41, 49 #46-#47, 56 #63-#64, 74 #4, 84-89, 95 #39, 134 #2, 155-159, 181 #25-#30</p>
<ul style="list-style-type: none"> • Compare and order numbers of all named types 	<p>Student Edition: 34 #55-#58, 36 ex 1, 37 #1-#4, 38 #13-#24, 45 #45-#48, 50 #6-#7, 76 #18-#19, 79 #5-#6, 91-95, 101 #55-#57, 113 #4-#7, 135 #21-#25, 141 #8, 157 ex 5 – ex 6, 158 #23-#28, 159 #32-#35, 160 #27-#30, 166 #35-#38, 171 #24, 183 #4</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Rewrite numbers from standard to scientific notation 	Student Edition: 130-133, 138 #66-#75, 139 #18-#19, 140 #2, 147 #45, 151 #37, 185 #9
<ul style="list-style-type: none"> Show the relationship of scientific notation to place value using positive and negative numbers and integer 	Student Edition: 130-133, 138 #66-#75, 139 #18-#19, 140 #2, 147 #45, 151 #37, 185 #9
<ul style="list-style-type: none"> Use whole numbers, fractions, decimals, and percents to represent equivalent forms of the same number 	Student Edition: 85 ex 1 – ex 2, 86 ex 3 – ex 5, 87 #1-#6, 88 #43-#46, 89 #52, 92 ex 2, 93 #9, 94 #17, 95 #39, 101 #56, 113 #6, 135 #15-#18, 189 #1-#4, 190 ex 1, 192 #1, 195 ex 2, 197 #21-#23, 205 ex 2 <i>Ready to Solve Problems 90</i>
<ul style="list-style-type: none"> Recognize that repeating decimals correspond to fractions and determine their fractional equivalents $\frac{5}{7} = 0.714285714285 = \text{-----}$ 0.714285 	Student Edition: 85 ex 2, 86 ex 3, 87 #6, 88 #50, 89 #51-#52, 92 ex 2, 93 #9, 94 #17, 95 #39, 101 #56, 113 #6, 135 #15-#18, 139 #1-#2 <i>Ready to Solve Problems 90</i>
<ul style="list-style-type: none"> Construct meanings for common irrational numbers such as π pi and the square root of 2 	Student Edition: 156 ex 4, 158 #5-#6, 159 #41, 181 #25, 183 #10 <i>Geometry Lab 172</i> <i>Key Concept 155</i>
NUMERICAL OPERATIONS	
NUMERICAL OPERATIONS	
<ul style="list-style-type: none"> Do lots of mental math as a warm up to the day's lessons 	Student Edition: 268-271, 274 #17-#20, 278 #38, 283 #33-#36, 297 #30-#34, 299 #9-#12 <i>Study Tip 156</i> <i>Test-Taking Tip 638</i>
<ul style="list-style-type: none"> Use exponentiation to find whole number powers of numbers 	Student Edition: 126-129, 133 #39, 138 #57-#64, 139 #14-#16, 140 #4, 143 #5-#8, 147 #46-#48, 159 #48-#51
<ul style="list-style-type: none"> Find square and cube roots of numbers and understand the inverse nature of powers and roots 	Student Edition: 144-147, 151 #36, 159 #45-#47, 160 #1-#6, 180 #9-#12, 183 #1-#3
<ul style="list-style-type: none"> Do square root estimates 	Student Edition: 148-151, 157 ex 7, 158 #5-#6, 160 #10-#15, 166 #39, 175 ex 5, 180 #14-#22, 181 #25, 183 #5-#7, 184 #4, 185 #10

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Multiple and divide using scientific notation 	Student Edition: 130-133, 138 #66-#75, 139 #18-#19, 140 #2, 147 #45, 151 #37, 185 #9
<ul style="list-style-type: none"> Find the value of numbers written in exponential form 	Student Edition: 126-129, 133 #39, 138 #57-#64, 139 #14-#16, 140 #4, 143 #5-#8, 147 #46-#48, 159 #48-#51
FRACTIONS	
<ul style="list-style-type: none"> Review and constantly maintain all fractions – and all operations - with the fractions: Proper, improper, mixed; add, subtract, multiply and divide 	Student Edition: 84-89, 90-95, 96-101, 102-107, 108-112, 113 #9-#10, 114-118, 119-123, 129 #50, 133 #40-#43, 135 #21-#25, 136 #27-#30, 137 #42-#47, 139 #6-#9, 140 #5, 251 #5-#8
DECIMALS	
<ul style="list-style-type: none"> Review and constantly maintain all decimals – and all operations with the decimals 	Student Edition: 135 #11-#14, 251 #5-#8 <i>Reading to Solve Problems 90</i>
RATIO AND PROPORTION	
<ul style="list-style-type: none"> Solve problems involving proportions and percents 	Student Edition: 194-197, 210-214, 215 #14-#16, 220 ex 2, 221 ex 3, 222 #3, 223 #21-#23, 232-235, 236 ex 1, 237 ex 2, 238 ex 4, 243 #11-#12, 244 #17-#20, 246 #31-#32, 247 #5-#6, 248 #1, 249 #9, 252-255, 256-261, 263-267, 268-272
<ul style="list-style-type: none"> Use direct, inverse and partitive proportions 	Student Edition: 194-197, 210-214, 215 #14-#16, 220 ex 2, 221 ex 3, 222 #3, 223 #21-#23, 232-235, 236 ex 1, 237 ex 2, 238 ex 4, 243 #11-#12, 244 #17-#20, 246 #31-#32, 247 #5-#6, 248 #1, 249 #9
<ul style="list-style-type: none"> Relate proportions and ratios 	
PERCENT	
<ul style="list-style-type: none"> Solve real world problems from the students' world involving percents: Find: <ul style="list-style-type: none"> Simple and compound interest, Commission, profit and loss, Charges on credit card balance Income tax 	Student Edition: 253 ex 5, 254 #29, 258 #10, 259 #32, 260 #59-#60, 265 ex 5, 266 #18-#19, 267 #31, 269 ex 5, 270 #29-#30, 271 #36, 276 ex 4, 277 #26, 278 #35, 281 ex 4, 282 #20, 283 #30-#31, 285 ex 1, 286 ex 3, 287 ex 4, 290-293

<ul style="list-style-type: none"> Solve real-life applications from the students' world: <ul style="list-style-type: none"> Percent Gratuities Discount Simple and compound interest 	<p>Student Edition: 253 ex 5, 254 #29, 258 #10, 259 #32, 260 #59-#60, 265 ex 5, 266 #18-#19, 267 #31, 269 ex 5, 270 #29-#30, 271 #36, 276 ex 4, 277 #26, 278 #35, 281 ex 4, 282 #20, 283 #30-#31, 285 ex 1, 286 ex 3, 287 ex 4, 290-293</p>
ESTIMATION	
ESTIMATION	
<ul style="list-style-type: none"> Estimate square and cube roots of numbers 	<p>Student Edition: 144-147, 151 #36, 159 #45-#47, 160 #1-#6, 180 #9-#12, 183 #1-#3 LA12 – LA14</p>
<ul style="list-style-type: none"> Use equivalent representations of numbers such as fractions, decimals, and percents to facilitate estimation 	<p>Student Edition: 85 ex 1 – ex 2, 86 ex 3 – ex 5, 87 #1-#6, 88 #43-#46, 89 #52, 92 ex 2, 93 #9, 94 #17, 95 #39, 101 #56, 113 #6, 135 #15-#18, 189 #1-#4, 190 ex 1, 192 #1, 195 ex 2, 197 #21-#23, 205 ex 2 <i>Ready to Solve Problems</i> 90</p>
<ul style="list-style-type: none"> Recognize the limitations of estimation and assess the amount of error resulting from estimation 	<p>Student Edition: <i>Study Tip</i> 115, 163, 265, 286, 381</p>
<ul style="list-style-type: none"> Estimate answers to computational type problems to determine reasonableness of answer 	<p>Student Edition: 104 ex 1, 226 ex 2, 275-278, 280 ex 2 – ex 3, 283 #32, 289 #34-#37, 297 #37-#41, 299 #14-#15 <i>Study Tip</i> 115, 163, 265, 286, 381</p>
<ul style="list-style-type: none"> Estimate percentages of numbers 	<p>Student Edition: 275-278, 283 #32, 289 #34-#37, 297 #37-#41, 299 #14-#15</p>
<ul style="list-style-type: none"> Use equivalent numbers to make estimation easier (e.g. fractions to decimals to percents) 	<p>Student Edition: 85 ex 1 – ex 2, 86 ex 3 – ex 5, 87 #1-#6, 88 #43-#46, 89 #52, 92 ex 2, 93 #9, 94 #17, 95 #39, 101 #56, 113 #6, 135 #15-#18, 189 #1-#4, 190 ex 1, 192 #1, 195 ex 2, 197 #21-#23, 205 ex 2 <i>Ready to Solve Problems</i> 90</p>
<ul style="list-style-type: none"> Determine and explain rational numbers, whether to overestimate or underestimate, in problem solving activities 	<p>See Glencoe's <i>Mathematics Applications and Concepts Course 1</i> © 2006. Student Edition: 219-222, 223-225.</p>

STANDARDS	PAGE REFERENCES
<p>STANDARD 4.2 (GEOMETRY AND MEASUREMENT) ALL STUDENTS WILL DEVELOP SPATIAL SENSE AND THE ABILITY TO USE GEOMETRIC PROPERTIES, RELATIONSHIPS, AND MEASUREMENT TO MODEL, DESCRIBE AND ANALYZE PHENOMENA.</p>	
<p>Building upon knowledge and skills gained in preceding grades, by the end of Grade 8, students will:</p>	
<p><u>GEOMETRIC PROPERTIES</u></p>	
<p>PROPERTIES</p>	
<ul style="list-style-type: none"> • Understand and apply concepts involving Lines, angles, and planes: <ul style="list-style-type: none"> □ Complementary and supplementary angles □ Vertical angles □ Bisectors and perpendicular bisectors □ Parallel, perpendicular, and intersecting planes □ Intersection of plane with cube, cylinder, cone, and sphere 	<p>Student Edition: 68 #20, 306-311, 319 #25, 323 #24, 326 #5-#8, 343 #9-#17, 347 #2, 732</p>
<ul style="list-style-type: none"> • Understand and apply the Pythagorean Theorem to find the missing sides of right triangles 	<p>Student Edition: 162-166, 167-171, 178 #46-#48, 181 #32-#38, 182 #39-#43, 183 #12-#13, 184 #1, 185 #16, 193 #35 <i>Geometry Lab</i> 161</p>
<ul style="list-style-type: none"> • Understand and apply properties of polygon <ul style="list-style-type: none"> □ Regular polygons □ Quadrilaterals, including squares, rectangles, parallelograms, trapezoids, rhombi: □ Sum of measures of interior angles of a polygon □ Which polygons can be used alone to generate a tessellation and why 	<p>Student Edition: 316-319, 323 #20-#23, 331 #21-#24, 344 #24-#26, 347 #5</p>
<ul style="list-style-type: none"> • Understand and apply the concept of similarity 	<p>Student Edition: 218-223, 230 #29, 235 #17, 245 #25-#28, 247 #9-#10, 399-404, 408 #28, 409 #14-#16 <i>Geometry Lab</i> 224 <i>Spreadsheet Lab</i> 397-398</p>
<ul style="list-style-type: none"> • Use proportions to find missing measures 	<p>Student Edition: 218-223, 230 #29, 235 #17, 245 #25-#28, 247 #9-#10, 399-404, 408 #28, 409 #14-#16 <i>Geometry Lab</i> 224 <i>Spreadsheet Lab</i> 397-398</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Prepare scale drawings 	Student Edition: 236-241, 246 #33-#35, 247 #12
<ul style="list-style-type: none"> Create Models of 3D objects 	Student Edition: 370 ex 6, 371 #17-#18, 372 #27, 388, 393, 396 #20 <i>Measurement Lab</i> 385, 392 <i>Mini Lab</i> 380, 386
<ul style="list-style-type: none"> Use logic and reasoning to make and support conjectures about geometric objects 	Student Edition: 24, 2254 #2, 225 #2, 314-315, 324 #3, 325 #9, 343 #18, 359 #11, 385 #7
TRANSFORMING SHAPES	
TRANSFORMING SHAPES	
<ul style="list-style-type: none"> Understand and apply transformations. 	Student Edition: 332-336, 337-341, 345 #32-#34, 346 #35-#39, 347 #14-#15, 348 #1, 349 #11, 397 #5, 398 #16
<ul style="list-style-type: none"> Find the image, given the pre-image, and vice-versa 	Student Edition: 225-230, 332-336, 337-341, 345 #32-#34, 346 #35-#39, 347 #14-#15, 348 #1, 349 #11, 397 #5, 398 #16
<ul style="list-style-type: none"> Find the sequence of transformations needed to map one figure onto another 	Student Edition: 225-230, 332-336, 337-341, 345 #32-#34, 346 #35-#39, 347 #14-#15, 348 #1, 349 #11, 397 #5, 398 #16
<ul style="list-style-type: none"> Find the reflections, rotations, and translations result in images congruent to the pre-image 	Student Edition: 225-230, 332-336, 337-341, 345 #32-#34, 346 #35-#39, 347 #14-#15, 348 #1, 349 #11, 397 #5, 398 #16
<ul style="list-style-type: none"> Find the dilations (stretching/shrinking) result in images similar to the pre-image 	Student Edition: 225-230
<ul style="list-style-type: none"> Use iterative procedures to generate geometric patterns to: <ul style="list-style-type: none"> Explore fractals (e.g., the Koch Snowflake) Explore Self-similarity Explore patterns in successive stages (e.g., number of triangles in each stage of Sierpinski's Triangle) 	See Glencoe's <i>Geometry</i> © 2008 Student Edition: 423

STANDARDS	PAGE REFERENCES
COORDINATE GEOMETRY	
COORDINATES	
<ul style="list-style-type: none"> Use coordinates in four quadrants to represent geometric concepts 	Student Edition: 143 #1-#4, 173-178, 182 #44-#50
<ul style="list-style-type: none"> Use a coordinate grid to model and quantify transformations (e.g., translate right 4 units) 	Student Edition: 225-230, 332-336, 337-341, 345 #32-#34, 346 #35-#39, 347 #14-#15, 348 #1, 349 #11, 397 #5, 398 #16
UNITS OF MEASUREMENT	
UNITS OF MEASUREMENT	
<ul style="list-style-type: none"> Solve problems requiring calculations that involve different units of measurement within a measurement system (e.g., 4'3" plus 7'10" equals 12'1") 	See Glencoe's <i>Mathematics Applications and Concepts Course 1</i> © 2006. Student Edition: 494-497
<ul style="list-style-type: none"> Use approximate equivalents between standard and metric systems to estimate measurements (e.g., 5 kilometers is about 3 miles) 	Student Edition: 742-743, 744-745
<ul style="list-style-type: none"> Recognize that the degree of precision needed in calculations depends on how the results will be used and the instruments used to generate the measurements 	Student Edition: 736
<ul style="list-style-type: none"> Select and use appropriate units and tools to measure quantities to the degree of precision needed in a particular problem-solving situation 	Student Edition: 736
<ul style="list-style-type: none"> Recognize that all measurements of continuous quantities are approximations 	
<ul style="list-style-type: none"> Solve problems that involve compound measurement units, such as speed (miles per hour), air pressure (pounds per square inch), and population density (persons per square mile) 	Student Edition: 744-745
Review, Extend, Use and Maintain all Measures In and Through Problem Solving	
LENGTH	
<ul style="list-style-type: none"> Fractions of an inch, mile, decimeter, kilometer ($\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$) 	See Glencoe's <i>Geometry</i> © 2008. Student Edition: 14

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Measure and calculate: Area, length, width using ruler or yardstick, one inch squares, one centimeter squares 	Student Edition: 363-367
<ul style="list-style-type: none"> Explore problems using: inches, feet, yards and mile, millimeters, centimeters, meters, kilometers 	Student Edition: 742-743, 744-745
<ul style="list-style-type: none"> Add and subtract customary units of length and width 	See Glencoe's <i>Mathematics Applications and Concepts Course 1</i> © 2006. Student Edition: 465-468, 476-479
CAPACITY	
<ul style="list-style-type: none"> Solve word problems for: ounce, cup, pint, quart, gallon, milliliter 	Student Edition: 742-743, 744-745
<ul style="list-style-type: none"> Solve problems for milliliter, liter, kiloliter 	Student Edition: 742-743, 744-745
MASS	
<ul style="list-style-type: none"> Measure and calculate: Volume using one inch cubes and one centimeter cubes 	Student Edition: 377 #23-#25 <i>Mini Lab 373</i>
<ul style="list-style-type: none"> Solve problems using grams, kilograms 	Student Edition: 742-743, 744-745
WEIGHT	
<ul style="list-style-type: none"> Solve problems for: ounce, pounds, ton 	Student Edition: 742-743, 744-745
VOLUME	
<ul style="list-style-type: none"> Solve problems for: cubic inch, cubic centimeter 	Student Edition: 742-743, 744-745
AREA	
<ul style="list-style-type: none"> Solve problems for: square inch, square centimeter 	Student Edition: 742-743, 744-745
TIME	
<ul style="list-style-type: none"> Solve problems involving elapsed time within a twelve hour period 	See Glencoe's <i>Mathematics Applications and Concepts Course 1</i> © 2006. Student Edition: 494-497

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Measure and calculate: Elapsed time to the nearest five minutes during the same twelve hour period 	See Glencoe's <i>Mathematics Applications and Concepts Course 1</i> © 2006. Student Edition: 494-497
TEMPERATURE	
<ul style="list-style-type: none"> Read and interpret thermometers by both positive and negative degrees OC = 32F 	Student Edition: 742
MEASURING GEOMETRIC OBJECTS	
MEASURING OBJECTS	
<ul style="list-style-type: none"> Develop and apply strategies for finding perimeter and area 	Student Edition: 352-357, 367 #23, 372 #29, 378 #40, 379 #1-#2, 406 #8-#10, 409 #1-#2 <i>Measurement Lab 362</i>
<ul style="list-style-type: none"> Develop and apply strategies for geometric figures made by combining triangles, rectangles and circles or parts of circles 	Student Edition: 363-367, 372 #29, 378 #39, 379 #6-#7, 406 #12-#14, 409 #4-#5, 410 #4, 411 #7 <i>Measurement Lab 362</i>
<ul style="list-style-type: none"> Develop and apply strategies for estimation of area using grids of various sizes 	Student Edition: 363-367, 372 #29, 378 #39, 379 #6-#7, 406 #12-#14, 409 #4-#5, 410 #4, 411 #7 <i>Measurement Lab 362</i>
<ul style="list-style-type: none"> Develop and apply strategies for impact of a dilation on the perimeter and area of a 2-dimensional figure 	Student Edition: 220, 221 ex 3, 222 #4, 223 #19, 225-230, 247 #27
<ul style="list-style-type: none"> Recognize that the volume of a pyramid or cone is one-third of the volume of the prism or cylinder with the same base and height (e.g., use rice to compare volumes of figures with same base and height) 	Student Edition: 380-384, 407 #21-#24, 409 #12
<ul style="list-style-type: none"> Develop and apply strategies and formulas for finding the surface area and volume of a three-dimensional figure 	Student Edition: 373-378, 379 #10-#11, 380-384, 386-391, 393-396, 400 ex 2, 403 #13, 407 #18-#20, 409 #8-#9, 410 #3 <i>Measurement Lab 385</i> <i>Spreadsheet Lab 397-398</i>
<ul style="list-style-type: none"> Solve problems with: volume - prism, cone, pyramid 	Student Edition: 373-378, 379 #10-#11, 380-384, 401 ex 3, 402 #3, 403 #13, 404 #23, 407 #18-#24, 409 #8-#9 <i>Spreadsheet Lab 397-398</i>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Solve problems showing surface area - prism (triangular or rectangular base), pyramid (triangular or rectangular base) 	<p>Student Edition: 386-391, 393-396, 397 #6, 398 #9, 400 ex 2, 403 #12, 404 #26, 408 #25-#27, 410 #3 <i>Measurement Lab 385</i></p>
<ul style="list-style-type: none"> Solve problems showing impact of a dilation on the surface area and volume of a three-dimensional figure 	<p>Student Edition: 399-404, 408 #28, 409 #7 <i>Spreadsheet Lab 397-398</i></p>
<ul style="list-style-type: none"> Use formulas to find the volume and surface area of a sphere 	<p>Student Edition: 741</p>
<p>STANDARD 4.3 (PATTERNS AND ALGEBRA) ALL STUDENTS WILL REPRESENT AND ANALYZE RELATIONSHIPS AMONG VARIABLE QUANTITIES AND SOLVE PROBLEMS INVOLVING PATTERNS, FUNCTIONS, AND ALGEBRAIC CONCEPTS AND PROCESSES.</p>	
<p>Building upon knowledge and skills gained in preceding grades, by the end of Grade 8, students will:</p>	
<p>PATTERNS</p>	
<p>PATTERNS</p>	
<ul style="list-style-type: none"> Create, recognize and explain numerical patterns that include whole numbers, rational numbers, integers, decimal and fractions 	<p>Student Edition: 464-468, 473 #30, 480 #32, 494 #1-#3, 519 #10-#13, 523 #1-#2</p>
<ul style="list-style-type: none"> Recognize, describe arithmetic sequences (i.e., sequences generated by repeated addition of a fixed number, positive or negative) 	<p>Student Edition: 464-468, 473 #30, 480 #32, 494 #1-#3, 519 #10-#13, 523 #1-#2</p>
<ul style="list-style-type: none"> Recognize, describe finite and infinite sequences 	<p>Student Edition: 464-468, 473 #30, 480 #32, 494 #1-#3, 519 #10-#13, 523 #1-#2</p>
<ul style="list-style-type: none"> Recognize, describe geometric sequences (i.e., sequences generated by repeated multiplication by a fixed positive ratio, greater than 1 or less than 1) 	<p>See Glencoe's <i>Advanced Mathematical Concepts</i> © 2006. Student Edition: 766-773</p>
<ul style="list-style-type: none"> Recognize, describe descriptions using tables, verbal and symbolic rules, graphs, simple equations or expressions 	<p>Student Edition: 471-473, 475-480, 486, 487-492, 494 #9, 495-499, 507 #29-#31, 519 #14-#20, 521 #29-#32, 523 #12-#14, 524 #5 <i>Algebra Lab 74</i> <i>Graphing Calculator Lab 500-501</i></p>
<ul style="list-style-type: none"> Generating sequences by using calculators to repeatedly apply a formula 	<p>See Glencoe's <i>Advanced Mathematical Concepts</i> © 2006. Student Edition: 784-785</p>

STANDARDS	PAGE REFERENCES
FUNCTIONS AND RELATIONSHIPS	
FUNCTIONS AND RELATIONSHIPS	
<ul style="list-style-type: none"> • Graph functions and understand and describe their general behavior that involve: <ul style="list-style-type: none"> □ Solve equations involving two variables □ Solve problems with rate of change (informal notion of slope.) □ Recognize and describe the difference between linear and exponential growth, using tables, graphs, and equations 	<p>Student Edition: 471-473, 475-480, 486, 487-492, 494 #9, 495-499, 507 #29-#31, 519 #14-#20, 521 #29-#32, 523 #12-#14, 524 #5 <i>Algebra Lab 74</i> <i>Graphing Calculator Lab 500-501</i></p>
MODELING	
MODELING	
<ul style="list-style-type: none"> • Analyze functional relationships to explain how a change in one quantity can result in a change in another, using pictures, graphs, charts, and equations. 	<p>Student Edition: 471-473, 475-480, 486, 487-492, 494 #9, 495-499, 507 #29-#31, 519 #14-#20, 521 #29-#32, 523 #12-#14, 524 #5 <i>Algebra Lab 74</i> <i>Graphing Calculator Lab 500-501</i></p>
<ul style="list-style-type: none"> • Use patterns, relations, symbolic algebra, and linear functions to model situations 	<p>Student Edition: 464-468, 471-473, 475-480, 486, 487-492, 494 #9, 495-499, 507 #29-#31, 519 #14-#20, 521 #29-#32, 523 #12-#14, 524 #5 <i>Algebra Lab 74</i> <i>Graphing Calculator Lab 500-501</i></p>
<ul style="list-style-type: none"> • Using concrete materials (manipulatives), tables, graphs, verbal rules, algebraic expressions/equations/inequalities 	<p>Student Edition: 41 ex 1, 42 ex 2 – ex 3, 51 <i>Algebra Lab 40</i> <i>Mini Lab 46, 65</i></p>
<ul style="list-style-type: none"> • Growth situations, such as population growth and compound interest, using recursive (e.g., NOW-NEXT) formulas 	<p>Student Edition: <i>Spreadsheet Lab 294</i></p>
PROCEDURES	
PROCEDURES	
<ul style="list-style-type: none"> • Use graphing techniques on a number line show: <ul style="list-style-type: none"> □ Absolute value □ Do arithmetic operations represented by vectors (arrows) (e.g., “-3 + 6” is “left 3, right 6”) 	<p>Student Edition: 36 ex 2, 37 ex 6, 41 ex 1, 42 ex 2 – ex 3, 51</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Solve simple linear equations informally, graphically, and using formal algebraic methods do problems with multi-step, integer coefficients only (although answers may not be integers) 	<p>Student Edition: 65-69, 70-73, 78 #43-#56, 79 #20-#23, 434-437, 455 #14-#18, 456 #22-#26, 459 #16-#18 <i>Algebra Lab</i> 432-433</p>
<ul style="list-style-type: none"> Solve simple linear inequalities 	<p>Student Edition: 445-448, 449-453, 457 #37-#43, 458 #44-#51</p>
<ul style="list-style-type: none"> Create, evaluate, and simplify algebraic expressions involving variables. 	<p>Student Edition: 57-61, 65-69, 70-73, 78 #43-#56, 79 #20-#23, 416-421, 427-431, 434-437, 455 #14-#18, 456 #22-#26, 459 #16-#18 <i>Algebra Lab</i> 432-433</p>
<ul style="list-style-type: none"> Show order of operations, including appropriate use of parentheses 	<p>Student Edition: 30 ex 1 – ex 2, 32 #1-#6, 33 #45-#47, 34 #48, 39 #51-#53, 50 #3-#4, 53 ex 7, 54 #13-#15, 55 #53-#56, 75 #13-#16, 79 #2-#3 <i>Key Concept</i> 29</p>
<ul style="list-style-type: none"> Demonstrate the distributive property 	<p>Student Edition: 32 #29, 156, 460 #1, 461 #8</p>
<ul style="list-style-type: none"> Demonstrate substitution of a number for a variable 	<p>Student Edition: 30 ex 1 – ex 2, 32 #1-#6, 33 #38, 34 #50, 45 #50, 48 #31-#38, 50 #3-#4, 53 ex 7, 54 #13-#15, 55 #53-#56, 75 #13-#17, 79 #2-#3</p>
<ul style="list-style-type: none"> Show translation of a verbal phrase or sentence into an algebraic expression, equation, or inequality and vice versa 	<p>Student Edition: 57-61, 67 ex 2, 68 #20-#23, 69 #32, 71 ex 3, 72 #22-#26, 77 #39-#40, 78 #55, 79 #19, 81 #8</p>
<ul style="list-style-type: none"> Use software to show the translation of a verbal phrase or sentence into an algebraic expression, equation, or inequality, and vice versa 	
<ul style="list-style-type: none"> Understand and apply the properties of operations, numbers, equations, and inequalities 	<p>Student Edition: 31, 32 #8-#9, 33 #35-#36, 34 #51, 453 #43 <i>Key Concept</i> 29, 65, 66, 70, 71, 445, 449, 450</p>
<ul style="list-style-type: none"> Show the additive inverse 	<p>Student Edition: <i>Key Concept</i> 43</p>
<ul style="list-style-type: none"> Show the multiplicative inverse 	<p>Student Edition: 102 ex 1, 105 #1-#3, 106 #43, 156 <i>Key Concept</i> 102</p>
<ul style="list-style-type: none"> Show the addition and multiplication properties of equality 	<p>Student Edition: <i>Key Concept</i> 29, 65, 66, 71</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Show the addition and multiplication properties of inequalities 	Student Edition: <i>Key Concept</i> 445, 449, 450
STANDARD 4.4 (DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE CONCEPTS AND TECHNIQUES OF DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS, AND WILL USE THEM TO MODEL SITUATIONS, SOLVE PROBLEMS, AND ANALYZE AND DRAW APPROPRIATE INFERENCES FROM DATA.	
Building upon knowledge and skills gained in preceding grades, by the end of Grade 8 , students will:	
<u>DATA ANALYSIS</u>	
DATA ANALYSIS	
<ul style="list-style-type: none"> Select and use appropriate representations for sets of data, and measures of central tendency (mean, median, and mode) 	Student Edition: 591-596, 598 #9, 610 #32, 624 #18-#19, 627 #6, 628 #4 <i>Spreadsheet Lab</i> 597
<ul style="list-style-type: none"> Use the calculator and computer software to find the effect of additional data on measures of central tendency 	Student Edition: <i>Spreadsheet Lab</i> 597
<ul style="list-style-type: none"> Select and use appropriate representations for type of display most appropriate for given data ...tables, graphs.... 	Student Edition: 612-616, 617-621, 626 #33-#34, 627 #15, 629 #11
<ul style="list-style-type: none"> Select and use appropriate representations for box-and-whisker plot, upper quartile, lower quartile 	Student Edition: 599-604, 605-610, 621 #27-#28, 625 #21-#26, 627 #10 <i>Graphing Calculator Lab</i> 611
<ul style="list-style-type: none"> Select and use appropriate representations for scatter plot 	Student Edition: 510-515, 522 #39, 523 #19-#21, 525 #7, 533 #44-#46, 537 #40-#42 <i>Graphing Calculator Lab</i> 516-517
<ul style="list-style-type: none"> Use calculators and computer software to find the median and mean (weighted average) using frequency data 	Student Edition: <i>Spreadsheet Lab</i> 597
<ul style="list-style-type: none"> Make inferences and formulate and evaluate arguments based on displays and analysis of data 	Student Edition: 574-575, 576-580, 582-588, 598 #3-#5, 605-610, 612-616, 621 #29-#31, 623 #11-#15, 624 #16-#17, 626 #27-#32, 627 #14, 629 #10 <i>Graphing Calculator Lab</i> 581, 611 <i>Spreadsheet Lab</i> 589-590

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Estimate lines of best fit and use them to interpolate within the range of the data 	Student Edition: 510-515, 522 #39, 523 #19-#21, 525 #7, 533 #44-#46, 537 #40-#42 <i>Graphing Calculator Lab</i> 516-517
<ul style="list-style-type: none"> Use surveys and sampling techniques to generate data and draw conclusions about large groups 	Student Edition: 653-658, 662 #26-#27, 663 #15, 664 #6
<u>PROBABILITY</u>	
PROBABILITY	
<ul style="list-style-type: none"> Interpret probabilities as ratios, percents, and decimals 	Student Edition: 637642, 643-647, 648 #2, 649 #11, 652 #3, 660 #11-#15, 661 #16-#21, 663 #3-#6, 665 #1
<ul style="list-style-type: none"> Determine probabilities of simple and compound events 	Student Edition: 637642, 643-647, 648 #2, 649 #11, 652 #3, 660 #11-#15, 661 #16-#21, 663 #3-#6, 665 #1
<ul style="list-style-type: none"> Explore the probabilities of conditional events (e.g., if there are seven marbles in a bag, three red and four green, what is the probability that two marbles picked from the bag, without replacement, are both red) 	Student Edition: 637-642, 647 #25-#26, 652 #4-#9, 660 #11-#14, 663 #3-#6, 665 #12
<ul style="list-style-type: none"> Model situations involving probability with simulations (using spinners, dice, calculators and computers) and theoretical models 	See Glencoe's <i>Algebra 1</i> © 2007. Student Edition: 669-675
<ul style="list-style-type: none"> Find Frequency, relative frequency of data 	See Glencoe's <i>Mathematics Applications and Concepts Course 1</i> © 2006. Student Edition: 185
<ul style="list-style-type: none"> Estimate probabilities and make predictions based on experimental and theoretical probabilities 	Student Edition: 637642, 643-647, 648 #2, 649 #11, 652 #3, 660 #11-#15, 661 #16-#21, 663 #3-#6, 665 #1
<ul style="list-style-type: none"> Play and analyze probability-based games, and discuss the concepts of fairness and expected value 	Student Edition: <i>Probability Lab</i> 648-649
<u>Discrete Mathematics—Systematic Listing and Counting</u>	
LISTING AND COUNTING	
<ul style="list-style-type: none"> Apply the multiplication principle of counting 	Student Edition: 632-636, 642 #37, 647 #27, 652 #1-#2, 660 #7-#10, 663 #1

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Explore permutations: Ordered situations with replacement (e.g., number of possible license plates) vs. ordered situations without replacement (e.g., number of possible slates of 3 class officers from a 23 student class) 	See Glencoe's <i>Algebra 1</i> © 2007. Student Edition: 647-654
<ul style="list-style-type: none"> Understand factorial notation 	See Glencoe's <i>Algebra 1</i> © 2007. Student Edition: 644-645
<ul style="list-style-type: none"> Understand the concept of combinations (e.g., number of possible delegations of 3 out of 23 students) 	See Glencoe's <i>Algebra 1</i> © 2007. 647-654
<ul style="list-style-type: none"> Explore counting problems involving Venn diagrams with three attributes (e.g., there are 15, 20, and 25 students respectively in the chess club, the debating team, and the engineering society; how many different students belong to the three clubs if there are 6 students in chess and debating, 7 students in chess and engineering, 8 students in debating and engineering, and 2 students in all three?) 	Student Edition: 152-153, 159 #43, 160 #19, 180 #23-#24, 183 #11, 184 #7
<ul style="list-style-type: none"> Apply techniques of systematic listing, counting, and reasoning in a variety of different contexts 	Student Edition: 632-636, 642 #37, 647 #27, 652 #1-#2, 660 #7-#10, 663 #1
Discrete Mathematics—Vertex-Edge Graphs and Algorithms	
VERTEX-EDGE GRAPHS AND ALGORITHMS	
<ul style="list-style-type: none"> Use vertex-edge graphs and algorithmic thinking to represent and find solutions to practical problems as you search for ways of: <ul style="list-style-type: none"> □ Finding the shortest network connecting specified sites □ Finding a minimal route that includes every street (e.g., for trash pickup) □ Finding the shortest route on a map from one site to another □ Finding the shortest circuit on a map that makes a tour of specified sites 	See <i>Math Connects: Concepts, Skills, and Problem Solving Course 2</i> © 2009. Student Edition: 481
<ul style="list-style-type: none"> Understand the limitations of computers (e.g., the number of routes for a delivery truck visiting n sites is $n!$, so finding the shortest circuit by examining all circuits would overwhelm the capacity of any computer, now or in the future, even if n is less than 100) 	This objective can be met through classroom discussion and activities.

STANDARDS	PAGE REFERENCES
<p>STANDARD 4.5 (MATHEMATICAL PROCESSES) ALL STUDENTS WILL USE MATHEMATICAL PROCESSES OF PROBLEM SOLVING, COMMUNICATION, CONNECTIONS, REASONING, REPRESENTATIONS, AND TECHNOLOGY TO SOLVE PROBLEMS AND COMMUNICATE MATHEMATICAL IDEAS.</p>	
<p>At each grade level, with respect to content appropriate for that grade level, students will:</p>	
<p><u>A. Problem Solving</u></p>	
<ul style="list-style-type: none"> Learn mathematics through problem solving, inquiry, and discovery 	<p>Student Edition: 24-28, 62-63 <i>Algebra Lab</i> 40 <i>Geometry Lab</i> 161, 172 <i>Get Ready</i> 91, 108, 126, 224 <i>Mini Lab</i> 46, 65, 96, 130, 144, 148, 162, 218, 225, 263 <i>Spreadsheet Lab</i> 231</p>
<ul style="list-style-type: none"> Solve problems that arise in mathematics and in other contexts (cf. workplace readiness standard 8.3) 	<p>Student Edition: 24-28, 32 #24, 38 #38, 43 ex 6, 44 #31, 48 #39-#40, 50 #20, 54 ex 8, 55 #29, 58 ex 2, 59 #12, 60 #18, 62-63, 68 #4, 69 #26, 72 #7, 73 #38, 75 #10-#12, 76 #28, 77 #38</p>
<ul style="list-style-type: none"> Solve open-ended problems 	<p>Student Edition: 24-28, 62-63 <i>Algebra Lab</i> 40 <i>Geometry Lab</i> 161, 172 <i>Get Ready</i> 91, 108, 126, 224 <i>Mini Lab</i> 46, 65, 96, 130, 144, 148, 162, 218, 225, 263 <i>Spreadsheet Lab</i> 231</p>
<ul style="list-style-type: none"> Solve non-routine problems 	<p>Student Edition: 24-28, 32 #24, 38 #38, 43 ex 6, 44 #31, 48 #39-#40, 50 #20, 54 ex 8, 55 #29, 58 ex 2, 59 #12, 60 #18, 62-63, 68 #4, 69 #26, 72 #7, 73 #38, 75 #10-#12, 76 #28, 77 #38</p>
<ul style="list-style-type: none"> Solve problems with multiple solutions 	<p>See Glencoe's <i>Algebra 1</i> © 2007. Student Edition: 533-538</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Solve problems that can be solved in several ways 	<p>Student Edition: 24-28, 32 #24, 38 #38, 43 ex 6, 44 #31, 48 #39-#40, 50 #20, 54 ex 8, 55 #29, 58 ex 2, 59 #12, 60 #18, 62-63, 68 #4, 69 #26, 72 #7, 73 #38, 75 #10-#12, 76 #28, 77 #38</p>
<ul style="list-style-type: none"> Select and apply a variety of appropriate problem-solving strategies (e.g., “try a simpler problem” or “make a diagram”) to solve problems 	<p>Student Edition: 24-28, 32 #24, 38 #38, 43 ex 6, 44 #31, 48 #39-#40, 50 #20, 54 ex 8, 55 #29, 58 ex 2, 59 #12, 60 #18, 62-63, 68 #4, 69 #26, 72 #7, 73 #38, 75 #10-#12, 76 #28, 77 #38</p>
<ul style="list-style-type: none"> Pose problems of various types and levels of difficulty 	<p>Student Edition: 24-28, 32 #24, 38 #38, 43 ex 6, 44 #31, 48 #39-#40, 50 #20, 54 ex 8, 55 #29, 58 ex 2, 59 #12, 60 #18, 62-63, 68 #4, 69 #26, 72 #7, 73 #38, 75 #10-#12, 76 #28, 77 #38</p>
<ul style="list-style-type: none"> Monitor their progress and reflect on the process of their problem solving activity 	<p>Student Edition: 24-28, 32 #24, 38 #38, 43 ex 6, 44 #31, 48 #39-#40, 50 #20, 54 ex 8, 55 #29, 58 ex 2, 59 #12, 60 #18, 62-63, 68 #4, 69 #26, 72 #7, 73 #38, 75 #10-#12, 76 #28, 77 #38</p>
<p><u>B. Communication</u></p>	
<ul style="list-style-type: none"> Use communication to organize and clarify their mathematical thinking 	<p>Student Edition: 34 #49, 39 #47, 45 #42, 49 #48, 56 #65, 69 #30, 73 #35, 89 #52, 95 #40, 101 #52, 122 #39, 129 #45, 133 #36, 166 #32, 171 #20, 177 #42, 197 #19, 203 #26, 214 #32, 261 #64</p>
<ul style="list-style-type: none"> Read and write often in math class 	<p>Student Edition: 34 #49, 39 #47, 45 #42, 49 #48, 56 #65, 69 #30, 73 #35, 89 #52, 95 #40, 101 #52, 122 #39, 129 #45, 133 #36, 166 #32, 171 #20, 177 #42, 197 #19, 203 #26, 214 #32, 261 #64</p>
<ul style="list-style-type: none"> Use Discussion, listening, and questioning techniques to: <ul style="list-style-type: none"> Communicate mathematical thinking coherently and clearly to peers, teachers, and others, both orally and in writing. Analyze and evaluate the mathematical thinking and strategies of others. Use the language of mathematics to express mathematical ideas precisely. 	<p>Student Edition: 34 #49, 39 #47, 45 #42, 49 #48, 56 #65, 69 #30, 73 #35, 89 #52, 95 #40, 101 #52, 122 #39, 129 #45, 133 #36, 166 #32, 171 #20, 177 #42, 197 #19, 203 #26, 214 #32, 261 #64</p>

STANDARDS	PAGE REFERENCES
C. Connections	
<ul style="list-style-type: none"> Recognize recurring themes across mathematical domains (e.g., patterns in number, algebra, and geometry). 	<p>Student Edition: 55 #45-#48, 69 #34-#35, 73 #39-#40, 95 #37, 106 #41, 117 #36, 129 #41, 133 #34</p> <p><i>Algebra Lab</i> 40</p> <p><i>Mini Lab</i> 46, 65, 96, 130, 144, 148, 162, 218, 225, 263</p>
<ul style="list-style-type: none"> Use connections among mathematical ideas to explain concepts (e.g., two linear equations have a unique solution because the lines they represent intersect at a single point). 	<p>Student Edition: 55 #45-#48, 69 #34-#35, 73 #39-#40, 95 #37, 106 #41, 117 #36, 129 #41, 133 #34</p> <p><i>Algebra Lab</i> 40</p> <p><i>Mini Lab</i> 46, 65, 96, 130, 144, 148, 162, 218, 225, 263</p>
<ul style="list-style-type: none"> Recognize that mathematics is used in a variety of contexts outside of mathematics. 	<p>Student Edition: 24-28, 32 #24, 38 #38, 43 ex 6, 44 #31, 48 #39-#40, 50 #20, 54 ex 8, 55 #29, 58 ex 2, 59 #12, 60 #18, 62-63, 68 #4, 69 #26, 72 #7, 73 #38, 75 #10-#12, 76 #28, 77 #38</p>
<ul style="list-style-type: none"> Apply mathematics in practical situations and in other disciplines. 	<p>Student Edition: 24-28, 32 #24, 38 #38, 43 ex 6, 44 #31, 48 #39-#40, 50 #20, 54 ex 8, 55 #29, 58 ex 2, 59 #12, 60 #18, 62-63, 68 #4, 69 #26, 72 #7, 73 #38, 75 #10-#12, 76 #28, 77 #38</p>
<ul style="list-style-type: none"> Trace the development of mathematical concepts over time and across cultures (cf. world languages and social studies standards). 	<p>This objective can be met through classroom discussion and activities.</p>
<ul style="list-style-type: none"> Understand how mathematical ideas interconnect and build on one another to produce a coherent whole. 	<p>Student Edition: 55 #45-#48, 69 #34-#35, 73 #39-#40, 95 #37, 106 #41, 117 #36, 129 #41, 133 #34</p> <p><i>Algebra Lab</i> 40</p> <p><i>Mini Lab</i> 46, 65, 96, 130, 144, 148, 162, 218, 225, 263</p>
D. Reasoning	
<ul style="list-style-type: none"> Recognize that mathematical facts, procedures, and claims must be justified. 	<p>Student Edition: 31 ex 5, 32 #10, 33 #33-#36, 39 #43-#45, 40 #1-#3, 45 #41, 49 #46-#47, 56 #63-#64, 106 #44, 133 #36, 159 #37-#39, 161 #3, 172 #3, 223 #16-#17, 224 #2, 278 #32-#33, 283 #27, 310 #37, 316 #1, 323 #16</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Use reasoning to support their mathematical conclusions and problem solutions. 	<p>Student Edition: 31 ex 5, 32 #10, 33 #33-#36, 39 #43-#45, 40 #1-#3, 45 #41, 49 #46-#47, 56 #63-#64, 106 #44, 133 #36, 159 #37-#39, 161 #3, 172 #3, 223 #16-#17, 224 #2, 278 #32-#33, 283 #27, 310 #37, 316 #1, 323 #16</p>
<ul style="list-style-type: none"> Select and use various types of reasoning and methods of proof. 	<p>Student Edition: 31 ex 5, 32 #10, 33 #33-#36, 39 #43-#45, 40 #1-#3, 45 #41, 49 #46-#47, 56 #63-#64, 106 #44, 133 #36, 159 #37-#39, 161 #3, 172 #3, 223 #16-#17, 224 #2, 278 #32-#33, 283 #27, 310 #37, 316 #1, 323 #16</p>
<ul style="list-style-type: none"> Rely on reasoning, rather than answer keys, teachers, or peers, to check the correctness of their problem solutions. 	<p>Student Edition: 34 #48, 49 #45, 61 #27, 100 #49, 111 #41, 151 #31, 166 #30, 240 #22, 260 #61, 271 #34, 289 #29, 377 #33, 426 #33, 444 #34, 453 #41, 486 #33</p>
<ul style="list-style-type: none"> Make and investigate mathematical conjectures. 	<p>Student Edition: 31 ex 5, 32 #10, 33 #33-#36, 39 #43-#45, 40 #1-#3, 45 #41, 49 #46-#47, 56 #63-#64, 106 #44, 133 #36, 159 #37-#39, 161 #3, 172 #3, 223 #16-#17, 224 #2, 278 #32-#33, 283 #27, 310 #37, 316 #1, 323 #16</p>
<ul style="list-style-type: none"> Counter examples as a means of disproving conjectures 	<p>Student Edition: 31 ex 5, 32 #10, 33 #33-#36, 39 #43-#45, 45 #41, 56 #63-#64, 49 #46-#47, 106 #44, 133 #36, 159 #37-#39, 223 #16-#17, 278 #32-#33, 283 #27, 310 #37, 323 #16, 331 #16-#17, 372 #24-#25, 391 #18, 468 #36, 514 #27</p>
<ul style="list-style-type: none"> Verifying conjectures using informal reasoning or proofs. <ol style="list-style-type: none"> Evaluate examples of mathematical reasoning and determine whether they are valid. 	<p>Student Edition: 31 ex 5, 32 #10, 33 #33-#36, 39 #43-#45, 40 #1-#3, 45 #41, 49 #46-#47, 56 #63-#64, 106 #44, 133 #36, 159 #37-#39, 161 #3, 172 #3, 223 #16-#17, 224 #2, 278 #32-#33, 283 #27, 310 #37, 316 #1, 323 #16</p>

STANDARDS	PAGE REFERENCES
<u>E. Representations</u>	
<ul style="list-style-type: none"> • Create and use representations to organize, record, and communicate mathematical ideas. <ul style="list-style-type: none"> <input type="checkbox"/> Concrete representations (e.g., base-ten blocks or algebra tiles) <input type="checkbox"/> Pictorial representations (e.g., diagrams, charts, or tables) <input type="checkbox"/> Symbolic representations (e.g., a formula) <input type="checkbox"/> Graphical representations (e.g., a line graph) 	<p>Student Edition: <i>Algebra Lab</i> 40, 432, 474, 648-649 <i>Geometry Lab</i> 161, 172 <i>Mini Lab</i> 24, 29, 46, 65, 96, 130, 148, 161, 162, 206, 263, 316, 324-325, 327, 386, 416, 474, 481</p>
<ul style="list-style-type: none"> • Select, apply, and translate among mathematical representations to solve problems. 	<p>Student Edition: 55 #45-#48, 69 #34-#35, 73 #39-#40, 95 #37, 106 #41, 117 #36, 129 #41, 133 #34 <i>Algebra Lab</i> 40 <i>Mini Lab</i> 46, 65, 96, 130, 144, 148, 162, 218, 225, 263</p>
<ul style="list-style-type: none"> • Use representations to model and interpret physical, social, and mathematical phenomena. 	<p>Student Edition: 55 #45-#48, 69 #34-#35, 73 #39-#40, 95 #37, 106 #41, 117 #36, 129 #41, 133 #34 <i>Algebra Lab</i> 40 <i>Mini Lab</i> 46, 65, 96, 130, 144, 148, 162, 218, 225, 263</p>
<u>F. Technology</u>	
<ul style="list-style-type: none"> • Use technology to gather, analyze, and communicate mathematical information. 	<p>Student Edition: <i>Graphing Calculator Lab</i> 516-517, 544, 581, 611 <i>Spreadsheet Lab</i> 397-398, 589-590, 597</p>
<ul style="list-style-type: none"> • Use computer spreadsheets, software, and graphing utilities to organize and display quantitative information (cf. workplace readiness standard 8.4-D). 	<p>Student Edition: <i>Graphing Calculator Lab</i> 474, 500, 516-517, 544, 581, 611 <i>Spreadsheet Lab</i> 589-590</p>
<ul style="list-style-type: none"> • Use graphing calculators and computer software to investigate properties of functions and their graphs. 	<p>Student Edition: <i>Graphing Calculator Lab</i> 516-517, 544</p>
<ul style="list-style-type: none"> • Use calculators as problem-solving tools (e.g., to explore patterns, to validate solutions). 	<p>Student Edition: <i>Graphing Calculator Lab</i> 474, 500, 516-517, 544, 581, 611</p>

STANDARDS	PAGE REFERENCES
<ul style="list-style-type: none"> Use computer software to make and verify conjectures about geometric objects. 	Student Edition: <i>Spreadsheet Lab</i> 231, 397-398
<ul style="list-style-type: none"> Use computer-based laboratory technology for mathematical applications in the sciences (cf. science standards). 	Student Edition: 517 #2 <i>Graphing Calculator Lab</i> 500-501