



MathMatters 1

An Integrated Program

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STANDARDS	PAGE REFERENCES
Number, Number Sense and Operations Standard	
Number and Number Systems	
1. Identify and justify whether properties (closure, identity, inverse, commutative and associative) hold for a given set and operations; e.g., even integers and multiplication.	Student Edition: 118-121, 122 #38-#59, 123 #82-#87, 131 #52-#54, 141 #84-#86, 147 #35-#37, 149 #27-#30, 206 #7-#12 Annotated Teacher Edition: CE 119; DI 118; QA 120
2. Compare, order, and determine equivalent forms for rational and irrational numbers.	Student Edition: 101 #4, 103 #19-#30, 112 #60-#65, 119 #2, 206 #15-#20, 240 #1-#2, 536 #7-#12 Annotated Teacher Edition: GS 104; I 118; TT 207
Meaning of Operations	
3. Explain the effects of operations such as multiplication or division, and of computing powers and roots on the magnitude of quantities.	Student Edition: 108-111, 112 #36-#65, 132-135 Annotated Teacher Edition: ETL 109, 137; GS 142; QA 110, 144; TT 108, 134

STANDARDS	PAGE REFERENCES
Computation and Estimation	
4. Demonstrate fluency in computations using real numbers.	Student Edition: 104-107, 108-111, 112 #1-#24, 113 #67-#84, 114-117, 122 #1-#27, 123 #60-#77, 146 #11-#22 Annotated Teacher Edition: GS 108, 114
5. Estimate the solutions for problem situations involving square and cube roots.	Student Edition: 142-145 Annotated Teacher Edition: CE 143; QA 144; TT 142
Measurement Standard	
Measurement Units	
1. Convert rates within the same measurement system; e.g., miles per hour to feet per second; kilometers per hour to meters per second.	Student Edition: 56-59, 60 #23-#37, 61 #63-#68, 71 #39-#44, 79 #44-#46, 89 #59-#64 Annotated Teacher Edition: CE 57; DI 56; ETL 57; GS 56; QA 58
Use Measurement Techniques and Tools	
2. Use unit analysis to check computations involving measurement.	Student Edition: 50 #7-#14
3. Use the ratio of lengths in similar two-dimensional figures or three-dimensional objects to calculate the ratio of their areas or volumes respectively.	Student Edition: 77 #64
4. Use scale drawings and right triangle trigonometry to solve problems that include unknown distances and angle measures.	Student Edition: 84-87, 88 #46-#54, 89 #97-#99, 96 #55, 97 #34 Annotated Teacher Edition: CE 85
5. Solve problems involving unit conversion for situations involving distances, areas, volumes and rates within the same measurement system.	Student Edition: 50 #7-#14, 56-59, 60 #46-#54, 61 #69-#75, 69 #42-#47, 71 #39-#44, 77 #65-#74, 79 #44-#46 Annotated Teacher Edition: DI 58; QA 58

STANDARDS		PAGE REFERENCES
Geometry and Spatial Sense Standard		
Characteristics and Properties		
1. Define the basic trigonometric ratios in right triangles: sine, cosine and tangent.	This standard can be met in Glencoe's <i>MathMatters 2</i> © 2006 on pages 488-491.	
2. Apply proportions and right triangle trigonometric ratios to solve problems involving missing lengths and angle measures in similar figures.	This standard can be met in Glencoe's <i>MathMatters 2</i> © 2006 on pages 474-477 and 488-491.	
Visualization and Geometric Models		
3. Analyze two-dimensional figures in a coordinate plane; e.g., use slope and distance formulas to show that a quadrilateral is a parallelogram.	Student Edition: 3-4 #1-#16, 308-311, 312 #11-#40, 313 #45-#59, 323 #55-#58, 333 #36-#38, 342 #16-#20, 345 #3-#7, 346 #7, 347 #17 Annotated Teacher Edition: CE 305; DI 308; QA 310	
Patterns, Functions and Algebra Standard		
Use Patterns, Relations and Functions		
1. Define function with ordered pairs in which each domain element is assigned exactly one range element.	Student Edition: 314-317, 322 #1-#27, 323 #59-#62, 333 #39-#42, 343 #21-#23 Annotated Teacher Edition: AA 317; CE 315; FG 315; QA 316; TT 314	
2. Generalize patterns using functions or relationships (linear, quadratic and exponential), and freely translate among tabular, graphical and symbolic representations.	Student Edition: 124-127, 130 #1-#8, 147 #38-#40, 149 #33, 150 #10, 258 #17-#26, 264 ex 1, 265 ex 2 – ex 3 Annotated Teacher Edition: ETL 125; QA 126; TT 264	
3. Describe problem situations (linear, quadratic and exponential) by using tabular, graphical and symbolic representations.	Student Edition: 124-127, 130 #1-#8, 147 #38-#40, 149 #33, 150 #10, 258 #17-#26, 264 ex 1, 265 ex 2 – ex 3 Annotated Teacher Edition: ETL 125; QA 126; TT 264	
4. Demonstrate the relationship among zeros of a function, roots of equations, and solutions of equations graphically and in words.	Student Edition: 319, 338-341 Annotated Teacher Edition: CE 339	

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5. Describe and compare characteristics of the following families of functions: linear, quadratic and exponential functions; e.g., general shape, number of roots, domain, range, rate of change, maximum or minimum.	Student Edition: 314, 315 ex 3, 316 #7-#8 Annotated Teacher Edition: ETL 341; TT 314
Use Algebraic Representations	
6. Write and use equivalent forms of equations and inequalities in problem situations; e.g., changing a linear equation to the slope-intercept form.	Student Edition: 321 #44-#45, 328-331, 332 #30-#33 Annotated Teacher Edition: CE 329; QA 330
7. Use formulas to solve problems involving exponential growth and decay.	Student Edition: 135 #73
8. Find linear equations that represent lines that pass through a given set of ordered pairs, and find linear equations that represent lines parallel or perpendicular to a given line through a specific point.	Student Edition: 329 ex 2, 330 #22-#24, 331 #31, 332 #30-#33, 344 #33, 345 #22-#23 Annotated Teacher Edition: CE 329
9. Solve and interpret the meaning of 2 by 2 systems of linear equations graphically, by substitution and by elimination, with and without technology.	This standard can be met in Glencoe's <i>MathMatters 2</i> © 2006 on pages 338-341, 344-347, and 348-351.
10. Solve quadratic equations with real roots by factoring, graphing, using the quadratic formula and with technology.	This standard can be met in Glencoe's <i>MathMatters 3</i> © 2006 on pages 520-523 and 540-543.
11. Add, subtract, multiply and divide monomials and polynomials (division of polynomials by monomials only).	Student Edition: 404-407, 408-411, 412 #1-#74, 413 #87-#98, 418-421 Annotated Teacher Edition: CE 405, 409; ETL 407; GS 418; QA 406, 410; TT 409
Analyze Change	
12. Simplify rational expressions by eliminating common factors and applying properties of integer exponents.	Student Edition: 137 ex 2, 138 #5-#8, 139 #40-#42, 140 #41-#48, 418-421, 422 #28-#51, 428 #92-#95 Annotated Teacher Edition: CE 137, 419; QA 420

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13. Model and solve problems involving direct and inverse variation using proportional reasoning.	Student Edition: 84-87, 88 #34-#54, 89 #91-#96, 260-263, 268 #1-#24, 269 #55-#66, 296 #11-#16 Annotated Teacher Edition: AA 85; DI 84, 261; QA 86
14. Describe the relationship between slope and the graph of a direct variation and inverse variation.	Student Edition: 327 #41 <i>MathWorks</i> 333
15. Describe how a change in the value of a constant in a linear or quadratic equation affects the related graphs.	Student Edition: 331 #33-#34
Data Analysis and Probability Standard	
Data Collection	
1. Classify data as univariate (single variable) or bivariate (two variables) and as quantitative (measurement) or qualitative (categorical) data.	Student Edition: 306-307 Annotated Teacher Edition: ETL 307; QA 307
2. Create a scatterplot for a set of bivariate data, sketch the line of best fit, and interpret the slope of the line of best fit.	Student Edition: 34-37, 44 #35-#40, 83 #44-#46, 340 ex 3 Annotated Teacher Edition: CE 35; ETL 35; GS 34; QA 36; TT 34
Statistical Methods	
3. Analyze and interpret frequency distributions based on spread, symmetry, skewness, clusters and outliers.	Student Edition: 16-19, 22 #1-#9, 23 #28-#29, 33 #23-#24, 43 #23-#28, 45 #7-#12, 47 #17 Annotated Teacher Edition: ETL 16; QA 18
4. Describe and compare various types of studies (survey, observation, experiment), and identify possible misuses of statistical data.	Student Edition: 6-9, 14 #1-#7, 15 #27-#29, 23 #22-#23, 33 #21, 42 #11-#15, 45 #1, 46 #1 Annotated Teacher Edition: CE 7; DI 6; QA 8
5. Describe characteristics and limitations of sampling methods, and analyze the effects of random versus biased sampling; e.g., determine and justify whether the sample is likely to be representative of the population.	Student Edition: 6-9, 14 #1-#7, 15 #27-#31, 33 #21 <i>Chapter Investigation</i> 3, 44 Annotated Teacher Edition: CE 7; CI 3; DI 6; ETL 7, 30

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6. Make inferences about relationships in bivariate data, and recognize the difference between evidence of relationship (correlation) and causation.	Student Edition: 34-37, 44 #35-#40, 83 #44-#46, 340 ex 3 Annotated Teacher Edition: CE 35; ETL 35; GS 34; QA 36; TT 34
Probability	
7. Use counting techniques and the Fundamental Counting principle to determine the total number of possible outcomes for mathematical situations.	Student Edition: 450-453, 454 #15-#19, 455 #35-#36, 463 #52-#53, 469 #31-#36 Annotated Teacher Edition: CE 451; DI 450; QA 452; TT 451, 453
8. Describe, create and analyze a sample space and use it to calculate probability.	Student Edition: 446-449, 454 #1-#8, 455 #33-#34, 463 #52-#53, 469 #29-#30, 471 #10-#11 Annotated Teacher Edition: GS 446; QA 448; TT 446, 447
9. Identify situations involving independent and dependent events, and explain differences between, and common misconceptions about, probabilities associated with those events.	Student Edition: 456-459, 462 #1-#18, 470 #41-#48 Annotated Teacher Edition: CE 457; ETL 458; QA 458
10. Use theoretical and experimental probability, including simulations or random numbers, to estimate probabilities and to solve problems dealing with uncertainty; e.g., compound events, independent events, simple dependent events.	Student Edition: 440-443, 444 #25-#36, 445 #47-#51, 456-459, 462 #1-#18, 470 #41-#48 Annotated Teacher Edition: CE 441, 457; ETL 458; QA 442, 458