

**G L E N C O E**

**Correlation**

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**Glencoe**

**Algebra 1**

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# UTAH

## Elementary Algebra

**GLENCOE CORRELATION**  
**ALGEBRA 1**  
**UTAH**  
**Elementary Algebra**

OBJECTIVES	PAGE REFERENCES
<b>Standard 1: Students will acquire number sense and perform operations with real numbers.</b>	
<b>Objective 1.1: Compute fluently and make reasonable estimates.</b>	
1. Estimate solutions to problems.	SE: 17 Ex#4, 50 Ex#1b, 52 Ex#3a, 54 #13, 147 #51, 535 Ex#4-5, 614 #40
2. Compute solutions to problems.	SE: 9 #43, 73-75, 79-82, 84-87, 103-106, 136 Ex#2, 155-157, 172 Ex#2, 173 Ex#4, 478 #30-31
3. Determine the reasonableness of an answer by relating it to the problem.	SE: 17 Ex#4, 42 #50, 52 Ex#4, 162 #3, 707 #1-4, 710 Ex#4 <i>Algebra Activity 783</i> <i>Reading Mathematics 714</i>
<b>Objective 1.2: Represent real numbers in a variety of ways.</b>	
1. Compare and order real numbers.	SE: 43, 68-70, 71 #42, 88-91, 92 #22-24, 93 #32-33, 104-106, 110, 233-235 <i>Spreadsheet Investigation 232</i>
2. Choose appropriate and convenient forms of real numbers for solving problems and representing answers, e.g., radical form, multiples of pi, decimal, fraction, or percent.	SE: 74 Ex#2, 77 #60, 80 Ex#3-5, 82 #50-52, 84-85, 103-106, 124 #26, 126 #52, 160-161, 586-589, 815
<b>Objective 1.3: Identify relationships among real numbers and operations involving these numbers.</b>	
1. Classify numbers as rational or irrational in the real number system.	SE: 68, 70 #1, 104-106, 539
2. Relate properties and operations of rational numbers to irrational numbers.	SE: 73-75, 79-80, 84-85, 105-106, 539, 546-547 TWE: DI 540
3. Simplify numerical expressions and solve problems using real numbers.	SE: 73-74, 79-80, 82 #42-49, 84-85, 86 #37-44, 103 Ex#1, 108 #50-51, 815
<b>Standard 2: Students will represent and analyze mathematical situations and properties using patterns, relations, functions, and algebraic symbols.</b>	
<b>Objective 2.1: Use patterns, relations, and functions to represent mathematical situations.</b>	
1. Write algebraic expressions or equations to generalize visual patterns, numerical patterns, relations, data sets, or scatter plots.	SE: 6-7, 212-214, 286-288, 298-301, 533-538 <i>Graphing Calculator Investigation 306-307, 531-532, 654, 729</i> <i>Spreadsheet Investigation 368</i>
2. Represent linear equations in slope-intercept form, $y = mx + b$ , or standard form, $ax + by = c$ .	SE: 218-220, 222 #38-43, 248-249, 272-274, 276 #28-39, 280-282, 290 #29-52 <i>Algebra Activity 271</i>
3. Distinguish between linear and non-linear functions or equations by examining a table, equation, or graph.	SE: 218-220, 222 #38-45, 226-228, 230 #45-48, 272-274, 524-527, 554-557, 567-568 <i>Graphing Calculator Investigation 224-225</i>
4. Identify the slope of a linear function as an average rate of change in real-world situations.	SE: 256, 258 Ex#6, 260 #13-14, 261 #40, 266 Ex#5, 269 #48-51, 274, 276 #45-46



OBJECTIVES	PAGE REFERENCES
<b>Objective 2.2: Evaluate, solve, and analyze mathematical situations using algebraic properties and symbols.</b>	
1. Solve real-world problems involving constant rates of change, e.g., rates of travel, hourly wages, or rates of interest.	SE: 258 Ex#6, 261 #53-56, 266 Ex#5, 269 #48-51, 276 #47-49, 282 Ex#3, 283 Ex#4, 284 #34-37, 290 #58-60 <i>Algebra Activity 271</i>
2. Solve multi-step equations and inequalities: a. Numerically; e.g., from a table or guess and check. b. Algebraically, including the use of manipulatives. c. Graphically. d. Using technology.	SE: 142-144, 146 #18-21, 147 #50, 148 #59-64, 149-151, 332-334, 336 #43-47, 354 Ex#3 <i>Algebra Activity 141</i> <i>Graphing Calculator Investigation 358</i>
3. Solve systems of two linear equations or inequalities: a. Numerically; e.g., from a table or guess and check. b. Algebraically. c. Graphically. d. Using technology.	SE: 369-371, 373 #44-50, 377-378, 380 #34-36, 390 Ex#4, 396 Ex#4 <i>Algebra Activity 376</i> <i>Graphing Calculator Investigation 375, 395</i> <i>Spreadsheet Investigation 368</i>
4. Determine the number of possible solutions for a system of two linear equations.	SE: 369-370, 372 #8-13, 373 #48-50, 374 #58, 379 #4-9, 386 #47-49, 392 #50-52, 399 #7-10, 403 #4-6 TWE: ICE 378
5. Evaluate numerical expressions (including exponents and square roots), algebraic expressions, formulas, and equations.	SE: 11-13, 14 #15-39, 15 #46, 20 #57-59, 31 #54, 36 #59-61, 67 #9-16, 539-540, 552 #57-59, 603 #86-89
6. Solve linear formulas and literal equations for a specified variable, e.g., solve for $p$ in $l = prt$ .	SE: 128-130, 149-150, 166-167, 168 #13-30, 181-182, 191 #9-14, 196 #52-55, 231 #62-64, 317 #1-12
7. Simplify algebraic expressions, including those having integer exponents.	SE: 26-29, 33 Ex#3, 36 #52-57, 109 #85-88, 417 Ex#1, 538 #59-61, 565 #39-41, 655-656, 767 #63-65 <i>Graphing Calculator Investigation 654</i>
8. Solve proportions that include algebraic first-degree expressions.	SE: 156-157, 158 #19-30, 160-161, 170 #49-51, 264-266, 616-618, 642-644, 646 #34-36 <i>Reading Mathematics 165</i>
9. Determine the number of solutions for a system of linear equations.	SE: 369-371, 372 #8-13, 374 #57-58, 379 #4-9, 386 #47-49, 392 #50-52, 399 #7-10, 403 #4-6 TWE: ICE 378
<b>Objective 2.3: Represent quantitative relationships using mathematical models and symbols.</b>	
1. Identify the slope of a line when given: a. A set of two ordered pairs. b. An equation of a linear function. c. The graph of a linear function. d. A table of values.	SE: 256-257, 259 #5-10, 260 #17-34, 262 #61, 264-266, 268 #15-20, 269 #57, 272, 285 #42 <i>Algebra Activity 271</i>
2. Write the equation of a line when given: a. A set of ordered pairs. b. The slope and a point on the line.	SE: 242 Ex#3-4, 272-274, 275 #14-19, 280-282, 284 #19-20, 285 #41, 286-288, 289 #15-26, 290 #58-59, 291 #68-70

c. The graph of a line.	
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OBJECTIVES	PAGE REFERENCES
3. Identify horizontal and vertical lines given the equations.	SE: 275 #2, 287 Ex#2 <i>Study Tip 273</i>
4. Identify the domain and range of a relation or function from a graph, equation, table, or set of ordered pairs.	SE: 45, 206 Ex#2a, 209 #18-25, 210 #51, 213-214, 223 #67-70, 248 #21-24, 285 #52-53, 344 #65-67, 443 #60-61 <i>Algebra Activity 271</i>
5. Determine the effect of parameter changes on the graphs of linear relations.	SE: 269 #47 <i>Graphing Calculator Investigation 265, 278-279</i>
6. Determine whether two lines are parallel, perpendicular, or neither, given the equations.	SE: 292, 294-295, 296 #42-44, 297 #47, 311, 370 Ex#2b, 374 #57, 394 Ex#2 <i>Algebra Activity 293</i>
7. Determine the x- and y-intercepts from an equation or graph of a line.	SE: 220 Ex#4, 221 #3, 222 #44
8. Graph linear functions: a. By plotting points. b. By finding x- and y-intercepts. c. Using the slope-intercept form of a line. d. Using the slope and any point on the line.	SE: 213 Ex#3, 215 #32-37, 219-220, 222 #46-53, 273 Ex#2-4, 276 #28-39 <i>Algebra Activity 271</i> <i>Graphing Calculator Investigation 224-225, 375</i> <i>Spreadsheet Investigation 368</i>
9. Graph linear inequalities and identify the boundary line and solution area.	SE: 352-354, 356 #26-37, 394, 415 #61-63, 397 #4-9 <i>Graphing Calculator Investigation 358, 395</i>
10. Determine and explain the meaning of intercepts using real-world examples.	SE: 272, 274, 276 #45-46, 282, 285 #40 <i>Algebra Activity 271</i> TWE: ICE 220
11. Use direct variation to model rates of change, e.g., if income = 40 hours times rate of pay, then increasing the rate of pay increases income.	SE: 258 Ex#6, 264-266, 269 #47-55, 276 #47-49, 285 #51 <i>Algebra Activity 271</i>
<b>Standard 3: Students will solve problems using spatial and logical reasoning, applications of geometric principles, and modeling.</b>	
<b>Objective 3.2: Specify locations and describe spatial relationships using coordinate geometry.</b>	
1. Find the distance between two given points and find the coordinates of the midpoint between them.	SE: 196 #48-50, 611-612, 613 #13-26, 614 #40-41, 621 #39-42, 635
2. Solve problems using the distance formula.	SE: 612-613, 614 #40-41, 615 #45, 621 #39-42, 635
3. Solve problems for areas, perimeters, volumes, and surface areas using formulas.	SE: 125 #41-44, 126 #52, 168 #10-12, 169 #34-35, 237 #45-46, 245 #31-33, 414 #43-48, 415 #60, 615 #46 <i>Algebra Activity 122, 416</i>
<b>Objective 3.3: Solve problems using visualization, spatial reasoning, and geometric modeling.</b>	
1. Solve problems using the Pythagorean Theorem.	SE: 605-607, 608 #12, 609 #41-45, 611, 634-635
2. Find missing parts of geometric figures using proportional reasoning and geometric relationships.	SE: 261 #57, 441 #30-31, 442 #36-40, 456 #43-44, 616-618, 620 #31, 623-625, 630 #70-71 <i>Algebra Activity 416</i>
3. Illustrate multiplication of polynomials using area models, e.g., $(a + b)^2$ , $x(x + 2)$ , or	SE: 452-454, 455 #1-2, 461, 462 #47 <i>Algebra Activity 431, 450-451</i>

$(x + a)(x + b).$	
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OBJECTIVES	PAGE REFERENCES
4. Factor polynomials using area models: <ol style="list-style-type: none"> <li>To identify the greatest common monomial factor.</li> <li>Of the form <math>ax^2 + bx + c</math> when <math>a = 1</math>.</li> </ol>	SE: 492 Ex#6, 495, 499 #49-50, 505 #50, 506 #54, 513 #42 <i>Algebra Activity</i> 480, 487-488, 501
<b>Standard 4: Students will understand and apply measurement tools, formulas, and techniques.</b>	
<b>Objective 4.1: Understand measurable attributes of objects and the units, systems, and processes of measurement.</b>	
1. Solve problems and express answers using appropriate units of measure.	SE: 9 #43, 108 #70-73, 124 #21, 131 Ex#6, 133 #56-57, 136 Ex#4, 139 #46-49, 147 #52 <i>Algebra Activity</i> 271, 299, 416, 626
2. Express the rate of change as a ratio of two different measures.	SE: 258 Ex#6, 261 #53-56, 266 Ex#5, 269 #48-51, 276 #47-49, 282 Ex#3, 284 #34-37, 290 #58-60 <i>Algebra Activity</i> 271
3. Select appropriate units to achieve the desired precision when solving problems.	
<b>Standard 5: Students will draw conclusions using concepts of probability after collecting, organizing, and analyzing a data set.</b>	
<b>Objective 5.1: Formulate and answer questions by collecting, organizing, and analyzing data.</b>	
1. Collect, record, organize, and display a set of data.	SE: 45 Ex#4, 46 #6-8, 50-52, 88-90, 92 #22-24, 93 #32-34, 237 #50-53, 722-724, 737-739 <i>Algebra Activity</i> 49, 271
2. Determine whether the pattern of the data is linear or nonlinear when given in a list, table, or graph.	SE: 218-219, 221 #4-7, 228 Ex#4, 240-242, 244 #12-19, 250 <i>Graphing Calculator Investigation</i> 729-730
3. Interpret the correlation between two variables as being positive, negative, or having no correlation.	SE: 298, 302 #6-9, 303 #18-23, 304 #29-33, 323 #59 <i>Algebra Activity</i> 299 <i>Graphing Calculator Investigation</i> 729-730 TWE: ICE 300
4. Find a line of best fit by estimation, choosing two points, or using technology for a given set of data.	SE: 300, 302 #14, 303 #16, 304 #29-30, 305 #40-43 <i>Graphing Calculator Investigation</i> 306-307, 729-730
5. Analyze the meaning of the slope and y-intercept of a line of best fit as it relates to the data.	SE: 302 #15, 303 #17, 304 #31-33, 305 #44 <i>Graphing Calculator Investigation</i> 306-307
6. Make predictions based on a line of best fit.	SE: 302 #15, 303 #17, 304 #31-33, 305 #44 <i>Algebra Activity</i> 299 <i>Graphing Calculator Investigation</i> 306-307 TWE: ICE 301
<b>Objective 5.2: Apply basic concepts of probability.</b>	
1. Determine and express the probability of an event as a fraction, percent, ratio, or decimal.	SE: 96-97, 98 #4-7, 99 #14-35, 100 #51, 101 #62, 769-772, 775 #44-47, 780 #25, 781 #27-29 <i>Algebra Activity</i> 102
2. Identify the probability of an event as being between zero (event not possible) and one (event certain).	SE: 97, 98 #1, 777, 779 #1

OBJECTIVES	PAGE REFERENCES
3. Recognize that the sum of the probability of an event and the probability of its complement is equal to one.	SE: 777, 778 Ex#2a, 779 #1
4. Determine whether a game or process is fair.	SE: 787 #32

### Codes Used for TWE Pages

DI      Daily Intervention  
ICE      In-Class Example