

# Key Vocabulary Index

Mathematical terms are best understood when you see them used and defined *in context*.

This index lists where you will find key vocabulary. A full glossary is available in your Record and Practice Journal and at *BigIdeasMath.com*.

- |                                   |                              |   |
|-----------------------------------|------------------------------|---|
| absolute value, 270, 478          | independent variable, 316    | prism, 356                                    |
| additive inverse, 484             | inequality, 326              | proportion, 608                               |
| algebraic expression, 112         | integers, 250, 478           | proportional, 608                             |
| base, 12                          | interest, 690                | pyramid, 356                                  |
| box-and-whisker plot, 460         | interquartile range, 414     | quadrants, 276                                |
| coefficient, 112                  | inverse operations, 303      | quartiles, 414                                |
| common factors, 32                | leaf, 436                    | range, 414                                    |
| common multiples, 38              | least common denominator, 42 | rate, 206, 600                                |
| complex fraction, 601             | least common multiple, 38    | ratio, 192, 600                               |
| composite figure, 172             | like terms, 136, 556         | ratio table, 198                              |
| constant, 112                     | linear expression, 562       | rational number, 520                          |
| constant of proportionality, 636  | markup, 684                  | reciprocals, 64                               |
| conversion factor, 234            | mean, 398                    | repeating decimal, 520                        |
| coordinate plane, 276             | mean absolute deviation, 420 | simple interest, 690                          |
| cross products, 609               | measure of center, 404       | simplest form, 556                            |
| dependent variable, 316           | measure of variation, 414    | slope, 630                                    |
| direct variation, 636             | median, 404                  | solid, 356                                    |
| discount, 684                     | metric system, 234           | solution, 302                                 |
| edge, 356                         | mode, 404                    | solution of an equation in two variables, 316 |
| equation, 296                     | negative numbers, 250        | solution of an inequality, 327                |
| equation in two variables, 316    | net, 362                     | solution set, 327                             |
| equivalent equations, 572         | numerical expression, 18     | statistical question, 392                     |
| equivalent expressions, 128       | opposites, 250, 484          | statistics, 392                               |
| equivalent rates, 206             | order of operations, 18      | stem, 436                                     |
| equivalent ratios, 198            | origin, 276                  | stem-and-leaf plot, 436                       |
| evaluate, 18                      | outlier, 399                 | surface area, 362                             |
| exponent, 12                      | percent, 220                 | terminating decimal, 520                      |
| face, 356                         | percent of change, 678       | terms, 112                                    |
| factor pair, 26                   | percent of decrease, 678     | third quartile, 414                           |
| factor tree, 26                   | percent error, 679           | unit analysis, 234                            |
| factoring an expression, 140, 566 | percent of increase, 678     | unit rate, 206, 600                           |
| first quartile, 414               | perfect square, 13           | U.S. customary system, 234                    |
| five-number summary, 460          | polygon, 152                 | variable, 112                                 |
| frequency, 441                    | polyhedron, 356              | Venn diagram, 30                              |
| frequency table, 441              | positive numbers, 250        | vertex, 356                                   |
| graph of an inequality, 328       | power, 12                    | volume, 374                                   |
| greatest common factor, 32        | prime factorization, 26      |   |
| histogram, 442                    | principal, 690               |   |

# Student Index

This student-friendly index will help you find vocabulary, key ideas, and concepts. It is easily accessible and designed to be a reference for you whether you are looking for a definition, real-life application, or help with avoiding common errors.

## A

- Absolute value**, 268–273, 476–481
  - defined, 270, 478
  - error analysis, 272, 480
  - real-life application, 271, 479
- Addition**
  - Associative Property of, 127–131
  - Commutative Property of, 126–131
    - of decimals, 78–83
    - error analysis, 82
    - real-life application, 81
    - writing, 82
  - equations
    - error analysis, 305
    - real-life application, 304
    - solving by, 300–307
  - of expressions
    - linear, 560–565
    - modeling, 560–561
  - of fractions, 42–43
  - inequalities
    - solving by, 332–337
  - of integers, 482–485
    - with different signs, 482–485
    - error analysis, 486
    - with the same sign, 482–485
  - Property
    - of Equality, 303, 572
    - error analysis, 130
    - of Inequality, 334
    - real-life application, 129, 573
    - of Zero, 129
  - of rational numbers, 524–529
    - error analysis, 528
    - real-life application, 527
    - writing, 528, 529, 539
  - whole numbers, 4
- Addition Property of Equality**, 303, 572
  - real-life application, 304, 573
- Addition Property of Inequality**, 334
- Addition Property of Zero**, 129
- Additive inverse**
  - defined, 484
  - writing, 486

Additive Inverse Property, 484

**Algebra**

- equations
  - equivalent, 572
  - modeling, 570–571, 576, 582–583
  - in one variable, 294–299
  - solving, 300–313, 570–587
  - in two variables, 314–321
  - two-step, 582–587
  - writing, 574, 580, 586
- expressions
  - linear, 560–565
  - modeling, 560–561, 565
  - simplifying, 135–139, 554–559
  - writing, 110–123, 558, 564

**formulas**, *See Formulas*

- inequalities**
  - graphing, 324–331
  - solving, 332–343
  - writing, 326

**Algebra tiles**

- equations, 570–571, 576, 582–583
- expressions, 560–561

**Algebraic expression(s)**, 110–117

- defined, 112
- error analysis, 115, 116
- evaluating
  - with two operations, 114
  - with two variables, 113

**factoring**, 141

**like terms**

- combining, 136
- defined, 136

**real-life application**, 114

**simplifying**, 135

**terms**

- defined, 112
- like, 136

writing, 112–113

**Area**

- of a composite figure, 172–173
  - real-life application, 173

of a parallelogram, 152–157

error analysis, 156

formula, 154

real-life application, 155

of a polygon

real-life application, 177

of a trapezoid, 166–171

error analysis, 170

formula, 168

real-life application, 169

writing, 167

of a triangle, 158–163

error analysis, 162

formula, 160

real-life application, 161

research, 163

writing, 163

**Associative Property of Addition**, 126–131

error analysis, 130

**Associative Property of Multiplication**, 126–131

## B

**Base**, defined, 12

**Base ten blocks** for modeling

decimal addition, 78

decimal division, 92–93

decimal multiplication, 84

decimal subtraction, 78

**Box-and-whisker plot(s)**, 458–465

defined, 460

error analysis, 463

five-number summary, 460

## C

**Choose Tools, Throughout.**

*For example, see:*

**data displays**

choosing, 465

measures of center, 465

variation of distribution, 465

**decimals**

adding, 82

ordering, 261

subtracting, 82

**equations in two variables**, 315, 320

**parallelograms**, area of, 156

**ratio tables**, 215

**ratios**, graphing, 215

- Coefficient**, defined, 112  
**Common Error**  
 percent equations, 670  
 polygons in the coordinate plane, 177  
 reflecting points in the coordinate plane, 283  
 writing expressions, 120, 129  
**Common factors**, defined, 32  
**Common multiple(s)**, 36–41  
 defined, 38  
**Commutative Property of Addition**, 126–131  
 real-life application, 129  
**Commutative Property of Multiplication**, 126–131  
**Comparing**  
 integers, 254–259  
 ratios, 210–215  
**Complex fraction**, defined, 601  
**Composite figure(s)**  
 area of, 172–173  
 real-life application, 173  
 defined, 172  
**Concept circle**, 410  
**Connections to math strands**  
 Algebra, 116, 117, 138, 487, 493, 501, 506  
 Geometry, 91, 99, 130, 139, 141, 195, 231, 283, 299, 306, 342, 373, 565, 575, 587, 611, 681  
**Constant**, defined, 112  
**Constant of proportionality**, defined, 636  
**Conversion factor**, defined, 234  
**Coordinate plane**  
 defined, 276  
 distances in, 277  
 finding distances, 176  
 graphing in, 274–283  
   error analysis, 279  
 ordered pairs, 276–277  
 origin, 276  
 polygons in the, 174–179  
   error analysis, 178  
   real-life application, 177  
   writing, 178  
 quadrant, 276  
 real-life application, 278  
 reflecting points in, 282–283  
**Critical Thinking, Throughout.**  
*For example, see:*  
 absolute value, 273  
 area of a polygon, 163, 171  
 data displays  
 box-and-whisker plots, 465  
 histograms, 445, 447  
 shapes of distribution, 455  
 stem-and-leaf plots, 439  
 decimals, 83  
 discounts, 687  
 division, 9  
 equations, solving, 307  
 greatest common factor, 35  
 inequalities  
   graphing, 331  
   solving, 343  
 interest, 693  
 least common multiples, 41  
 mean absolute deviation, 423  
 measures of center, 409  
 percent of change, 681  
 percent of decrease, 681  
 percent of increase, 681  
 percents, 223  
   modeling, 223  
 prime numbers, 29  
 proportions, 611, 627  
   direct variation, 639  
 rates, 605  
 rational numbers, 523  
   dividing, 543  
 ratios, 604, 611  
 rectangular prism, volume and surface area, 378  
 simplifying expressions, 559  
 slope, 633  
 solving equations, 575, 581  
 statistical questions, 394  
 surface area  
   of a prism, 365  
   of a pyramid, 373  
 trapezoids, 171  
 triangles, 162, 163, 171  
 unit conversion, 237  
**Cross products**, defined, 609  
**Cross Products Property**, 609  
**Customary system**, *See U.S. customary system*
- D**
- Data analysis, *See Data displays; Statistics*  
**Data displays**, *See also Graphs and graphing*  
 box-and-whisker plots, 458–465  
 defined, 460  
 error analysis, 463  
 five-number summary, 460  
 shapes of, 462  
 comparing, 444  
 dot plots, 392–395  
 frequency table, 441  
 histograms, 440–447  
   defined, 442  
   error analysis, 445, 446  
   modeling, 441  
 shapes of distribution, 450–457  
   appropriate measures of center and variation, 456–457  
 box-and-whisker plots, 462  
   skewed left, 452  
   skewed right, 452  
   symmetric, 452  
 stem-and-leaf plots, 434–439  
   defined, 436  
   error analysis, 438  
   leaf, 436  
   stem, 436  
   writing, 438  
**Decimal(s)**  
 adding, 78–83  
   error analysis, 82  
 modeling, 78  
   real-life application, 81  
   writing, 82  
**comparing**  
   fractions with, 656–661  
   percents with, 656–661  
   real-life application, 658  
**dividing**, 92–99  
   by decimals, 95  
   error analysis, 97, 98  
   modeling, 92–93  
   real-life application, 96  
   by whole numbers, 94  
   writing, 93  
**graphing**, 262–263  
**multiplying**, 84–91  
   by decimals, 87  
   error analysis, 89, 90  
   modeling, 84–85  
   real-life application, 88  
   by whole numbers, 86  
**ordering**, 260–265  
   with fractions, 656–661  
   negative, 262  
   with percents, 656–661  
   real-life application, 659

- percents as, 650–655  
 error analysis, 654  
 modeling, 650–655  
 real-life application, 653
- repeating  
 defined, 520  
 error analysis, 522  
 writing, 522
- subtracting, 78–73  
 error analysis, 82  
 modeling, 78–79  
 real-life application, 81  
 writing, 82
- terminating  
 defined, 520  
 writing, 522
- writing  
 as fractions, 521  
 as percents, 651–652  
 rational numbers as, 520
- Definition and example chart**, 216
- Denominator(s)**, least common, 42
- Dependent variable**, defined, 316
- Diagram(s)**  
 double number line, 205  
 modeling, 191  
 tape, 191, 193  
 Venn, 30–31, 36, 37  
 defined, 30
- Different Words, Same Question**,  
*Throughout. For example,*  
*see:*
- absolute value, 272  
 adding rational numbers, 528  
 box-and-whisker plots, 463  
 converting units, 236  
 direct variation, 638  
 fractions  
 dividing, 74  
 multiplying, 74  
 greatest common factor, 34  
 inequalities, 329  
 linear expressions, 564  
 measures of variation, 416  
 percent equations, 672  
 percents, 229  
 subtracting integers, 492  
 surface area of a prism, 364  
 triangles, 162  
 unit rates, 208  
 volume of a prism, 378  
 writing equations, 298  
 writing expressions, 122
- Direct variation**, 634–639  
 constant of proportionality, 636  
 defined, 636  
 error analysis, 638  
 modeling, 639  
 real-life application, 637  
 writing, 638
- Discount(s)**, 682–687  
 defined, 684  
 writing, 686
- Distance formula**, 318
- Distributive Property**, 132–141  
 error analysis, 137, 138  
 modeling, 132  
 real-life application, 135  
 writing, 137
- Division**  
 of decimals, 92–99  
 by decimals, 95  
 error analysis, 97, 98  
 modeling, 92–93  
 real-life application, 96  
 by whole numbers, 94  
 writing, 93
- equations**  
 modeling, 576  
 real-life application, 311, 579  
 solving by, 308–313, 576–581
- of fractions, 62–69  
 error analysis, 67  
 by a fraction, 65  
 modeling, 63  
 reciprocals, 64  
 by a whole number, 66
- inequalities  
 solving by, 338–343
- of integers, 502–507  
 with different signs, 502–504  
 error analysis, 506  
 reading, 506  
 real-life application, 505  
 with the same sign, 502–504  
 writing, 506
- of mixed numbers, 70–75  
 error analysis, 74  
 modeling, 70–71  
 real-life application, 73
- Property**  
 of Equality, 311, 578  
 of Inequality, 340  
 real-life application, 579
- of rational numbers, 538–543  
 error analysis, 542
- real-life application, 541  
 writing, 539, 542
- whole numbers**, 4–6  
 error analysis, 8  
 by a fraction, 65  
 real-life application, 6
- Division Property of Equality**, 311, 578  
 error analysis, 312  
 real-life application, 311  
 writing, 312
- Division Property of Inequality**, 340  
 real-life application, 341
- Dot plot(s)**, 392–395

## E

- Edge**, defined, 356
- Equality**  
 Addition Property of, 303, 572  
 Division Property of, 578  
 Multiplication Property of, 310, 578  
 Subtraction Property of, 303, 572
- Equation(s)**  
 addition, 570–575  
 error analysis, 574  
 modeling, 570–571  
 writing, 574
- defined, 296  
 division, 576–581  
 modeling, 576  
 real-life application, 579
- equivalent, 572
- inverse operations, 303
- multiplication, 576–581  
 error analysis, 580  
 writing, 580
- in one variable  
 error analysis, 298  
 real-life application, 297  
 writing, 294–299
- percent, 668–673  
 error analysis, 672  
 real-life application, 671
- percent proportions, 662–667  
 error analysis, 666  
 real-life application, 665  
 writing, 666
- solution, 302
- solving  
 by addition, 300–307  
 by division, 308–313

- error analysis, 305, 312  
by multiplication, 308–313  
real-life application, 304, 311  
by subtraction, 300–307  
writing, 305, 312  
subtraction, 570–575  
modeling, 570–571  
real-life application, 573  
two-step  
error analysis, 586  
modeling, 582–583  
real-life application, 585  
solving, 582–587  
writing, 586, 587
- Equation in two variables**, 314–321  
defined, 316  
dependent variable, 316  
error analysis, 319  
graphing, 317  
independent variable, 316  
real-life application, 318  
solution of, 316  
writing, 314–321
- Equivalent equations**  
defined, 572  
writing, 574
- Equivalent expressions**  
defined, 128  
identifying, 140  
using properties to write, 128–129
- Equivalent rate(s)**, 205–209  
defined, 206  
finding, 207
- Equivalent ratios**  
defined, 198  
error analysis, 202
- Error Analysis, *Throughout*.  
*For example, see:*  
absolute value, 272, 480  
area  
of a parallelogram, 156  
of a trapezoid, 170  
of a triangle, 162  
Associative Property of Addition, 130  
converting units, 236  
coordinate plane, 279  
data displays  
box-and-whisker plots, 463  
histograms, 445, 446  
stem-and-leaf plots, 438  
decimals  
adding, 82
- dividing, 97, 98  
multiplying, 89, 90  
as percents, 654  
subtracting, 82  
direct variation, 638  
Distributive Property, 137, 138  
equations  
in one variable, 298  
solving, 305, 312, 574, 580  
in two variables, 319  
two-step, 586  
exponents, 14  
expressions  
algebraic, 115, 116  
like terms of, 558  
linear, 565  
writing, 122  
fractions  
dividing, 67  
multiplying, 59, 60  
writing, 222  
greatest common factor, 34  
inequalities  
graphing, 330  
solving, 336, 342  
integers  
adding, 486  
comparing, 258  
dividing, 506  
multiplying, 500  
positive, 252  
subtracting, 492  
mixed numbers  
dividing, 74  
multiplying, 60  
order of operations, 20  
percent equation, 672  
percent of increase, 680  
percent proportion, 666  
percents, 222  
finding the whole, 230  
of a number, 229  
polygons in the coordinate plane, 178  
powers, 14  
prime factorization, 28  
proportions  
direct variation, 638  
percent, 666  
solving, 626  
writing, 618  
ratio tables, 202  
rational numbers  
adding, 528
- decimal representation of, 522  
dividing, 542  
multiplying, 542  
subtracting, 536  
simple interest, 692  
slope, 632  
statistics  
mean absolute deviation, 422  
measures of center, 407  
measures of variation, 416  
whole numbers  
dividing, 8  
multiplying, 8
- Evaluate**, defined, 18
- Example and non-example chart, 322
- Exponent(s)**, 10–15  
base of, 12  
defined, 12  
error analysis, 14  
order of operations, 18  
powers and, 10–15  
writing, 11
- Expression(s)**  
algebraic, 110–117  
defined, 112  
error analysis, 115, 116, 558  
evaluating, 113–114  
factoring, 141  
like terms, 136, 556  
real-life application, 114, 557  
simplest form of, 556  
simplifying, 135, 554–559  
terms, 112  
writing, 112, 558
- equivalent  
defined, 128  
identifying, 140  
using properties to write, 128–129
- evaluating, 18  
error analysis, 20
- factoring, 140–141, 566–567  
defined, 140, 566
- linear  
adding, 560–565  
defined, 562  
error analysis, 565  
modeling, 560–561, 565  
real-life application, 563  
subtracting, 560–561  
writing, 564

numerical  
defined, 18  
factoring, 140  
writing, 118–123  
error analysis, 122  
as powers, 12  
real-life application, 121, 129

## F

**Face**, defined, 356

**Factor(s)**  
common, defined, 32  
greatest common, 30–35  
defined, 32  
error analysis, 34  
real-life application, 33  
**pairs**, defined, 26  
prime factorization, 24–29  
error analysis, 28  
writing, 27  
repeated, 11

**Factor pairs**, defined, 26

**Factor tree**, defined, 26

**Factoring an expression**, 140–141,  
566–567

defined, 140, 566

**First quartile**, defined, 414

**Five-number summary**, defined,  
460

**Formulas**

area

of a parallelogram, 152–157  
of a trapezoid, 168  
of a triangle, 160

distance, 318

volume of a rectangular prism,  
29, 374–376

**Four square**, 164, 568

**Fraction(s)**

adding, 42–43  
comparing  
decimals with, 656–661  
percents with, 656–661  
real-life application, 658

complex, defined, 601

decimals as  
error analysis, 522  
writing, 521

dividing, 62–69

error analysis, 67  
by a fraction, 65  
mixed numbers by, 72

modeling, 63  
reciprocals, 64  
a whole number by, 65  
**graphing**, 262–263  
least common denominator, 42  
multiplying, 54–61  
error analysis, 59, 60  
modeling, 61  
real-life application, 57, 58  
writing, 59  
**ordering**, 260–265  
with decimals, 656–661  
negative, 262  
with percents, 656–661  
real-life application, 263, 659  
**percents and**, 218–223  
**subtracting**, 42–43  
**writing**  
error analysis, 222  
as percents, 218–223

**Frequency**, defined, 441

**Frequency table**, defined, 441

## G

**Geometry**

coordinate plane, 174–179,  
274–283  
nets, 360–363, 368–371  
parallelograms, 152–157  
perimeter, 177–178  
polygons, 152–157, 174–179  
polyhedrons, 354–359  
prisms, 356, 360–365, 374–379  
project, 359, 379  
pyramids, 356, 368–373  
solids, 354–373

trapezoids, 166–171

triangles, 158–163

**Graph(s) and graphing**, *See also*

Data displays  
in the coordinate plane, 274–283  
error analysis, 279  
ordered pairs, 276–277  
origin, 276  
quadrant, 276  
real-life application, 278  
of equations in two variables,  
317  
of inequalities, 324–331  
of ratios, 210–215

**Graph of an inequality**

defined, 328

error analysis, 330  
modeling, 330  
real-life application, 328  
writing, 329  
**Graphic Organizers**  
concept circle, 410  
definition and example chart,  
216

example and non-example  
chart, 322

four square, 164, 568  
idea and examples chart, 494  
information frame, 22  
information wheel, 124, 620  
notetaking organizer, 76  
process diagram, 366, 530  
summary triangle, 266, 674  
word magnet, 448

**Graphing proportional  
relationships**, 612–613

**Greatest common factor**, 30–35

defined, 32  
error analysis, 34  
modeling, 30–31, 37  
real-life application, 33  
writing, 34

## H

**Histogram(s)**, 440–447

defined, 442  
error analysis, 445, 446  
frequency, 441  
frequency tables, 441  
modeling, 441

## I

**Idea and examples chart**, 494

**Independent variable**, defined,  
316

**Inequalities**  
defined, 326  
graphing, 324–331  
defined, 328  
error analysis, 330  
modeling, 330  
real-life application, 328  
writing, 329  
solution of, 327  
solution set, 327  
solving  
by addition, 332–337  
by division, 338–343

error analysis, 336, 342  
 by multiplication, 338–343  
 real-life application, 335, 341  
 by subtraction, 332–337  
 writing, 336, 338  
 writing, 324–331  
   error analysis, 330  
   modeling, 330  
   real-life application, 328  
**Information frame**, 22  
**Information wheel**, 124, 620  
**Integer(s)**, 248–253  
   absolute value of, 476–481  
   error analysis, 480  
   real-life application, 479  
 adding, 482–489  
   with different signs, 482–485  
   error analysis, 486  
   with the same sign, 482–485  
 additive inverse of, 484  
   writing, 486  
 comparing, 254–259  
   error analysis, 258  
   real-life application, 257  
   writing, 258  
 defined, 478  
 dividing, 502–507  
   with different signs, 502–504  
   error analysis, 506  
   reading, 506  
   real-life application, 505  
   with the same sign, 502–504  
   writing, 506  
 graphing, 251  
 multiplying, 496–501  
   with different signs, 496–498  
   error analysis, 500  
   modeling, 501  
   real-life application, 499  
   with the same sign, 496–498  
   writing, 500  
 negative, defined, 250  
 opposites, 250  
 ordering, 254–259  
 positive  
   defined, 250  
   error analysis, 252  
   writing, 250  
 real-life application, 251  
 subtracting, 488–493  
   error analysis, 492  
   real-life application, 491  
   writing, 492  
 writing, 249

**Interquartile range**, 414–417  
   defined, 414  
**Interest**  
   defined, 690  
   principal, 690  
   simple, 688–693  
     defined, 690  
     error analysis, 692  
     writing, 692  
**Interval(s)**, 440–442  
**Inverse operations**, defined, 303

**L**

**Leaf**, defined, 436  
**Least common denominator**,  
   defined, 42  
**Least common multiple**, 36–41  
   defined, 38  
   modeling, 36–37, 40  
   real-life application, 39  
   writing, 40  
**Like terms**  
   combining, 136  
   defined, 136, 556  
   error analysis, 558  
   writing, 558  
**Line plot**, *See Dot plot(s)*  
**Linear expression(s)**  
   adding, 560–565  
     modeling, 560–561, 565  
     writing, 564  
   factoring, 566–567  
   subtracting, 560–565  
     error analysis, 565  
     modeling, 561  
     real-life application, 563  
     writing, 564  
**Logic**, *Throughout. For example,*  
   *see:*  
   absolute value, 477  
   area of parallelograms, 157  
   dividing mixed numbers, 75  
   histograms, 447  
   linear expression, 565  
   mean absolute deviation, 419  
   median, 447  
   percent equations, 673  
   reflecting points in the  
     coordinate plane, 283  
   relationship of operations, 8  
   shapes of distribution, 455  
   solids, 356

solving inequalities, 343  
 statistics, 319, 419  
 unit rates, 209

**M**

**Markup(s)**, 682–687  
   defined, 684  
   writing, 686  
**Mean**, 396–401  
   defined, 398  
   modeling, 397  
   research, 408  
**Mean absolute deviation**, 418–423  
   defined, 420  
   error analysis, 422  
   finding, 420  
   real-life application, 421  
**Meaning of a Word**  
   associate, 127  
   commute, 126  
   deviate, 418  
   distribute, 132  
   invert, 64  
   opposite, 250, 484  
   percent, 218  
   proportional, 606  
   rate, 598  
   rational, 518  
   skewed, 451  
**Measurement**  
   conversion factor  
     defined, 234  
   metric system  
     defined, 234  
   metric units  
     converting to customary  
       units, 232–237  
   unit analysis  
     defined, 234  
     writing, 236  
   unit conversion, 232–237  
     error analysis, 236  
**U.S. customary system**  
   converting to metric units,  
     232–237  
   defined, 234  
**Measures of center**, 396–409  
   choosing, 405  
   by shape of distribution,  
     456–457  
   defined, 404  
   error analysis, 407

- mean, 396–391  
defined, 398
- median, 402–409  
defined, 404
- mode, 402–409  
defined, 404
- research, 408
- Measures of variation**, 412–417  
defined, 414  
error analysis, 416
- interquartile range, 414–417  
defined, 414
- quartiles, 414–417  
defined, 414  
first, 414  
third, 414
- range, 412–417  
defined, 414
- writing, 417
- Median**, 402–409  
defined, 404  
error analysis, 407  
research, 408
- Mental Math**, *Throughout*.  
*For example, see:*
- Distributive Property, 132, 134
  - equations, 301
  - integers
    - adding, 487
    - subtracting, 493
  - multiplying decimals, 86
  - percents, 225
  - proportions, 617
  - using properties, 127
- Metric system**  
converting units, 232–237  
error analysis, 236  
defined, 234
- Mixed number(s)**  
dividing, 70–75  
error analysis, 74  
by a fraction, 72  
modeling, 70–71  
real-life application, 73
- multiplying, 57–58  
error analysis, 60
- subtracting, 43
- Mode**, 402–409  
defined, 404  
research, 408
- Modeling**, *Throughout*. *For example, see:*
- decimals
    - adding, 78
  - as percents, 650–655
  - subtracting, 78–79
  - diagrams, 191
  - direct variation, 639
  - Distributive Property, 132
  - expressions
    - algebraic, 559
    - linear, 560–561, 565
    - writing, 123
  - frequency tables, 441
  - greatest common factor
    - Venn diagram, 30
  - inequalities
    - graphing, 330
    - writing, 330
  - least common multiples, 36–37, 40
  - line graph, 280
  - line plots, 390
  - mixed numbers, dividing, 70–71
  - multiplying integers, 501
  - percents as decimals, 650–655
  - rates, 205
  - ratios, 191, 205
  - solutions of equations, 570–571, 576
  - statistics, 390
    - mean, 397
    - whole number operations, 9
  - Multiples
    - least common, 36–41
    - modeling, 36–37, 40
    - real-life application, 39
    - writing, 40
  - Multiplication
    - Associative Property of, 126–131
    - Commutative Property of, 126–131
    - of decimals, 84–91
      - by decimals, 87
      - error analysis, 89, 90
      - modeling, 84–85
      - real-life application, 88
    - equations, solving by, 576–581
    - of fractions, 54–61
      - error analysis, 59, 60
      - modeling, 61
      - real-life application, 57, 58
      - writing, 59
    - inequalities
      - solving by, 338–343
    - of integers, 496–501
      - with different signs, 496–498
      - error analysis, 500
  - modeling, 501
  - real-life application, 499
  - with the same sign, 496–498
  - writing, 500
  - of mixed numbers, 57–58
    - error analysis, 60
  - Property**
    - of Equality, 310, 578
    - of Inequality, 340
    - of One, 129
    - of Zero, 129
  - of rational numbers, 538–543
    - error analysis, 542
    - writing, 539, 542
  - solving equations by, 308–313
  - whole numbers, 4
    - by decimals, 86
    - error analysis, 8
  - Multiplication Property of Equality**, 310, 578
  - Multiplication Property of Inequality**, 340
    - error analysis, 342
  - Multiplication Property of One**, 129
  - Multiplication Property of Zero**, 129
  - Multiplicative Inverse Property**, 310

## N

### Negative number(s)

defined, 250

### Net

defined, 362  
of a prism, 360–363
 

- rectangular, 362
- triangular, 363

of a pyramid, 368–373
 

- square, 370
- triangular, 371

Notetaking organizer, 76

### Number line

for graphing
 

- decimals, 262–263
- fractions, 262–263
- integers, 251

for ordering
 

- decimals, 260–267
- fractions, 260–267
- integers, 254–259

**Number Sense**, *Throughout*. *For example, see:*

adding rational numbers, 529  
algebraic expressions, 115  
box-and-whisker plots, 463

Commutative Property of Addition, 130  
 decimals  
     dividing, 97  
     multiplying, 89  
     ordering, 264  
 division, 8  
 expressions  
     writing, 123  
 fractions, 74  
     comparing percents with, 660  
     multiplying, 60, 61  
     ordering, 264, 265  
     ordering percents and, 661  
     reciprocal of, 69  
 histograms, 447  
 integers, 253  
     adding, 486  
     dividing, 507  
     multiplying, 501  
 least common multiple, 41  
 mixed numbers  
     dividing, 74  
     multiplying, 61  
 order of operations, 21, 115  
 ordered pairs, 281  
 percents, 222  
     comparing fractions with, 660  
     finding, 229  
     of increase, 680  
     ordering fractions and, 661  
     proportions, 666  
 powers, 15  
 proportions, 626, 666  
 ratios, 194  
     comparing and graphing, 214  
     equivalent, 201  
 reciprocals, 542  
 slope, 633  
 solving equations, 312, 581  
 solving inequalities, 337  
 statistical questions, 394  
 statistics  
     mean, 400  
     measures of center, 407

**Numerical expression(s)**  
 defined, 18  
 writing, 20

**O**

Open-Ended, *Throughout. For example, see:*  
 absolute value, 481  
 area of a polygon, 163, 171

Associative Property of Addition, 130, 137  
 Associative Property of Multiplication, 130  
 box-and-whisker plots, 465  
 coordinate plane, 281  
 decimals  
     adding, 83  
     multiplying, 91  
 Distributive Property, 137  
 Division Property of Equality, 312  
 equations  
     in one variable, 298  
     in two variables, 321  
 factoring expressions, 141  
 fractions, 67  
     multiplying, 60  
 greatest common factor, 35  
 inequalities, solving, 342, 343  
 integers, 252, 481  
     adding, 487  
     dividing, 506  
     multiplying, 500  
     opposite, 492  
     subtracting, 493  
 inverse operations, 580  
 mixed numbers, 59  
 Multiplication Property of One, 130  
 order of operations, 21  
 percents  
     as decimals, 654  
     and fractions, 222  
 polygons in the coordinate plane, 179  
 proportions  
     solving, 626  
     writing, 610, 618  
 rates, 603  
 rational numbers  
     adding, 528  
     decimal representation of, 523  
     multiplying, 543  
     subtracting, 537  
 ratios, 610  
 reciprocals, 67  
 relating variables, 320  
 shapes of distribution, 457  
 solving equations, 581  
 statistics, 401  
     measures of variation, 417

Subtraction Property of Inequality, 336  
 trapezoids, 171  
 triangles, 163  
**Operations**  
 choosing among, 2–3  
 order of, 16–21  
     defined, 18  
     error analysis, 20  
     real-life application, 19  
     writing, 20  
 whole numbers, 2–9  
**Opposites**, defined, 250, 484  
**Order of operations**, 16–21  
 defined, 18  
 error analysis, 20  
 exponents, 18  
 real-life application, 19  
 writing, 20  
**Ordered pairs**, 276–277  
**Ordering**  
 decimals, 260–265  
 fractions, 260–265  
     real-life application, 263  
 integers, 254–259  
**Origin**, defined, 276  
**Outlier(s)**  
 checking for, 415  
 defined, 399

**P**

**Parallelogram(s)**  
 area of, 152–157  
     error analysis, 156  
     formula, 154  
     real-life application, 155  
**Patterns**, *Throughout. For example, see:*  
 dividing integers, 507  
 exponents, 15  
 powers, 15  
 recognition of, 63  
 writing expressions, 123  
**Percent(s)**, 218–223  
 of change, 678  
 comparing  
     decimals with, 656–661  
     fractions with, 656–661  
     real-life application, 658  
 as decimals, 650–655  
     error analysis, 654  
     modeling, 650–652  
     real-life application, 653

- of decrease, 676–681
  - defined, 220
  - equation, 668–673
    - error analysis, 672
    - real-life application, 671
  - error, 679
  - error analysis, 222
  - finding, 224–231
    - error analysis, 229, 230
    - of a number, 224–226
    - real-life application, 228
    - the whole, 227
  - fractions and, 218–223
  - of increase, 676–681
  - ordering
    - with decimals, 656–661
    - with fractions, 656–661
    - real-life application, 659
  - proportions, 662–667
    - error analysis, 666
    - real-life application, 665
    - writing, 666
  - real-life application, 221
  - research, 223, 655
  - writing, 222
    - error analysis, 222
    - as fractions, 218–223, 219
    - fractions as, 218–223
  - Percent of change**
    - defined, 678
    - formula, 678
  - Percent of decrease**
    - defined, 678
    - formula, 678
    - writing, 680
  - Percent error**
    - defined, 679
    - formula, 679
  - Percent of increase**
    - defined, 678
    - error analysis, 680
    - formula, 678
  - Perfect square**
    - defined, 13
    - real-life application, 13
  - Perimeter
    - of a rectangle
      - finding, 177
      - writing, 178
  - Polygon(s)**
    - area of, 152–157
      - error analysis, 156, 162, 170
      - real-life application, 155, 161, 169, 173, 177
    - research, 163
    - writing, 156, 163
  - in the coordinate plane, 174–179
    - error analysis, 178
    - finding distances, 176
    - real-life application, 177
    - writing, 178
  - defined, 152
- Polyhedron(s)**, *See also Solids*
  - defined, 356
  - edges of, 356
  - faces of, 356
  - project, 359
  - research, 559
  - vertices of, 356
- Positive number**, defined, 250
- Powers**, 10–15
  - defined, 12
  - error analysis, 14
  - exponents and, 10–15
  - writing, 11
- Precision**, *Throughout. For example, see:*
  - absolute value, 269
  - dividing decimals, 99
  - equations in two variables, 319
  - frequency tables, 441
  - ordering fractions, decimals, and percents, 661
  - percent of change, 681
  - polygons in the coordinate plane, 179
  - rates, 605
  - rational numbers
    - dividing, 543
    - multiplying, 539
  - ratios, 195
    - comparing, 211
    - graphing, 211
  - statistics, 401
  - surface area of a pyramid, 372
- Prices
  - discounts and markups, 682–687
    - defined, 684
    - writing, 686
- Prime factorization**, 24–29
  - defined, 26
  - error analysis, 28
  - factor pairs, 26
  - factor tree, 26
  - modeling, 29, 31
- Principal**, defined, 690
- Prism(s)**
  - defined, 356
  - drawing, 357
- nets for, 360–363
  - defined, 362
  - a rectangular, 362
  - a triangular, 363
- surface area of, 360–365
  - a rectangular, 362
  - a triangular, 363
- volume of rectangular, 374–379
- Problem Solving**, *Throughout. For example, see:*
  - adding integers, 487
  - decimals
    - dividing, 99
    - ordering, 265
    - as percents, 655
  - dividing fractions, 69
  - equations
    - in two variables, 321
    - two-step, 587
  - greatest common factor, 35
  - histograms, 446
  - percent proportions, 667
  - proportions, 627
  - rational numbers, 523
  - ratios, 203
  - simple interest, 693
  - statistics
    - mean absolute deviation, 423
    - measures of center, 408, 423
  - volumes of prisms, 379
- Process diagram**, 366, 530
- Properties**
  - Addition Property of Equality, 303, 572
    - real-life application, 573
  - Addition Property of Inequality, 334
  - Addition Property of Zero, 129
  - Additive Inverse Property, 484
  - Associative Property of Addition, 126–131
    - error analysis, 130
  - Associative Property of Multiplication, 126–131
  - Commutative Property of Addition, 126–131
    - real-life application, 129
  - Commutative Property of Multiplication, 126–131
  - Cross Products Property, 609
  - Distributive Property, 132–141
    - error analysis, 137, 138
    - real-life application, 135
    - writing, 137

- Division Property of Equality, 311, 578  
 Division Property of Inequality, 340  
 Multiplication Property of Equality, 310, 578  
 Multiplication Property of Inequality, 340  
 Multiplication Property of One, 129  
 Multiplication Property of Zero, 129  
 Multiplicative Inverse Property, 310  
 Subtraction Property of Equality, 303, 572  
 Subtraction Property of Inequality, 334  
**Proportion(s)**, 606–611  
 cross products, 609  
 Cross Products Property, 609  
 defined, 609  
 percent, 662–667  
     error analysis, 666  
     real-life application, 665  
     writing, 666  
 solving, 622–627  
     error analysis, 626  
     real-life application, 625  
     writing, 626  
 writing, 614–619  
     error analysis, 618  
**Proportional**  
 defined, 608  
 relationship  
     constant of proportionality, 636  
     direct variation, 634–639  
     error analysis, 638  
     graphing, 612–613  
     modeling, 639  
     reading, 608  
     real-life application, 637  
     writing, 638  
**Pyramid(s)**  
 defined, 356  
 drawing, 357  
 net of, 368–371  
     a square, 370  
     a triangular, 371  
 square, 370  
 surface area of, 368–373  
 triangular, 371



- Quadrant(s)**, defined, 276  
**Quartile(s)**, 414–417  
     defined, 414



- Range**, 412–417  
     defined, 414  
     interquartile, 414  
**Rate(s)**, 204–209  
     defined, 206, 600  
     double number line diagrams, 205  
     equivalent  
         defined, 206  
         finding, 207  
     ratios and, 598–605  
     research, 605  
     unit  
         cost, 207  
         defined, 206, 600  
         finding, 206  
         writing, 208, 603  
     writing, 206

- Ratio(s)**, *See also*  
     Proportions, Rates  
     comparing, 210–215  
     complex fraction, 601  
     defined, 192, 600  
     diagramming, 191, 193  
     equivalent  
         defined, 198  
         error analysis, 202  
     graphing, 210–215  
     modeling, 191  
     proportions and, 606–625  
         cross products, 609  
         Cross Products Property, 609  
         error analysis, 618, 626  
         proportional, 608  
         real-life application, 625  
         solving, 622–627  
         writing, 614–619  
     rates and, 204–209, 598–605  
         complex fractions, 601  
     slope, 628–633  
         error analysis, 632  
     writing, 192  
**Ratio table(s)**, 196–203  
     defined, 198  
     error analysis, 202

- graphing, 210–211  
 writing, 214  
**Rational number(s)**, *See also*  
     Fractions, Decimals  
 adding, 524–529  
     error analysis, 528  
     real-life application, 527  
     writing, 528, 529, 539  
 defined, 518, 520  
 dividing, 538–543  
     error analysis, 542  
     real-life application, 541  
     writing, 539, 542  
 multiplying, 538–543  
     error analysis, 542  
     writing, 539, 542  
 ordering, 521  
 repeating decimals  
     defined, 520  
     error analysis, 522  
     writing, 520  
 subtracting, 532–537  
     error analysis, 536  
     real-life application, 535  
     writing, 536  
 terminating decimals  
     defined, 520  
     writing, 520  
 writing as decimals, 520

- Reading**  
 check for reasonableness, 317  
 coordinate plane, 277  
 inequalities, 328, 335  
     opposites, 251  
     proportional relationship, 608  
     symbols of, 302, 327  
     translating words to equations, 297  
 quartiles, 414

- Real-Life Applications, Throughout.**  
*For example, see:*  
 absolute value, 271, 479  
 algebraic expressions, 114  
 area  
     of composite figures, 173  
     of parallelograms, 155  
     of trapezoids, 169  
     of triangles, 161  
 Commutative Property of Addition, 129  
 coordinate plane, 278  
 decimals, 653, 658, 659  
     adding, 81  
     dividing, 96

- multiplying, 88
- subtracting, 81
- direct variation, 637
- Distributive Property**, 135
- equations
  - in one variable, 297
  - solving, 304, 311
  - in two variables, 318
  - writing, 297, 304, 317
- expressions
  - linear, 563
  - simplifying, 557
- fractions, 653, 658, 659
  - multiplying, 57, 58
  - ordering, 263
- greatest common factor, 33
- inequalities
  - graphing, 328
  - solving, 335, 341
- integers, 251
  - comparing, 257
  - dividing, 505
  - multiplying, 499
  - subtracting, 491
- least common multiple, 39
- mean absolute deviation, 421
- mixed numbers, dividing, 73
- order of operations, 19
- percent, 653, 658, 659
  - equations, 671
  - proportions, 665
- percents, 221, 228
  - finding the whole, 228
- perfect square, 13
- polygons in the coordinate plane, 177
- proportions, 625, 665
- rational numbers
  - adding, 527
  - dividing, 541
  - subtracting, 535
- solving equations, 573, 579, 585
- whole numbers, division, 6
- writing expressions, 121, 129
- Reasoning, Throughout.** *For example, see:*
  - absolute value, 272, 481
  - algebraic expressions, 117
  - area
    - parallelograms, 153
    - triangles, 163
  - coordinate plane, 274, 280
    - ordered pairs, 281
    - reflecting points in, 283
- data displays
  - box-and-whisker plots, 465
  - histograms, 447
  - shapes of distribution, 455, 457
  - stem-and-leaf plots, 434, 439, 447, 455
- decimals, multiplying, 90
- direct variation, 639
- Distributive Property**, 138, 139
- division, 9
- expressions, 122, 123
  - factoring, 141
  - linear, 565
  - simplifying, 555, 558, 559
- fractions
  - dividing, 67, 68, 69
  - multiplying, 59
  - as percents, 223
- greatest common factor, 35
- integers, 249, 257
  - comparing, 259
  - multiplying, 501
  - ordering, 258
  - subtracting, 493
- least common multiple, 41
- markups, 686
- mixed numbers, dividing, 75
- order of operations, 20
- outliers, 445
- parallelograms, dimensions of, 157
- percents, 219, 231
  - discount and markups, 686
  - equations, 672
  - of increase, 681
  - proportions, 667
- powers, 15
- proportions
  - proportional relationships, 613, 639
  - solving, 627
  - writing, 619
- rational numbers
  - adding, 529
  - subtracting, 537
- ratios, 195, 203
- rectangles, 171
- simple interest, 692, 693
- slope, 632
- solids, 359
- solving
  - equations, 131, 306, 581, 587
  - inequalities, 342
- statistics, 390, 391, 395
  - mean, 397, 400, 401, 407, 457
  - mean absolute deviation, 419, 422, 423, 457
  - measures of center, 407
  - mode, 408
  - outliers, 417
  - statistical questions, 392
- trapezoids, 170, 171
- volumes of prisms, 378, 379
- Reciprocals**, defined, 64
- Rectangle(s), perimeter of, 177
- Reflecting points in the coordinate plane, 282–283
- Repeated Reasoning, Throughout.** *For example, see:*
  - adding rational numbers, 529
  - decimals, 91
  - Distributive Property**, 132
  - integers, 253
  - measures of variation, 412
  - perfect squares, 15
  - ratio tables, 197
  - slope, 629
  - solving equations, 301, 583
  - writing expressions, 118
- Repeating decimal(s)**
  - defined, 520
  - error analysis, 522
  - writing, 522

## S

- Shape of a distribution**, 450–457
  - box-and-whisker plots, 462
  - choosing appropriate measures, 456–457
  - skewed left, 452
  - skewed right, 452
  - symmetric, 452
- Simple interest**, 688–693
  - defined, 690
  - error analysis, 692
  - writing, 692
- Simplest form**, defined, 556
- Slope**, 628–633
  - defined, 630
  - error analysis, 632
- Solid(s)**
  - defined, 356
  - drawing, 354–355, 357
  - edges of, 356
  - faces of, 356

- polyhedron(s)**, 354–359  
 defined, 356  
 edges of, 356  
 faces of, 356  
 project, 359  
 research, 559  
 vertices of, 356  
**prism(s)**  
 defined, 356  
 drawing, 357  
 nets for, 360–363  
     defined, 362  
     a rectangular, 362  
     a triangular, 363  
 surface area of, 360–365  
     a rectangular, 362  
     a triangular, 363  
 volume of rectangular, 374–379  
 project, 359, 379  
**pyramid(s)**  
 defined, 356  
 drawing, 357  
 net of, 368–371  
     a square, 370  
     a triangular, 371  
 square, 370  
 surface area of, 368–373  
 triangular, 371  
 research, 359  
 surface area of  
     defined, 362  
     prisms, 360–365  
     pyramids, 368–373  
 vertices of, 356  
 volume of, 374–375  
**Solution**, defined, 302  
**Solution of an equation in two variables**, defined, 316  
**Solution of an inequality**, defined, 327  
**Solution set**, defined, 327  
**Square(s)**, perfect,  
 defined, 13  
 real-life application, 13  
**Statistical question(s)**, 392–395  
 defined, 392  
**Statistics**, *See also* Data displays  
 defined, 392  
 mean, 396–401  
     defined, 398  
     modeling, 397  
     research, 408  
 mean absolute deviation, 418–423  
     defined, 420  
     error analysis, 422  
     real-life application, 421  
 measures of center, 396–409  
     choosing, 456–457  
     defined, 404  
     error analysis, 407  
     research, 408  
 measures of variation, 412–417  
     defined, 414  
     error analysis, 416  
     writing, 417  
 median, 402–409  
     defined, 404  
     error analysis, 407  
     research, 408  
 mode, 402–409  
     defined, 404  
     research, 408  
 modeling, 390  
 outliers  
     defined, 399  
     writing, 407  
 quartiles, 414–417  
     defined, 414  
     first, 414  
     third, 414  
 range, 412–417  
     defined, 414  
     interquartile, 414  
 statistical questions, 392–395  
     defined, 392  
**Stem**, defined, 436  
**Stem-and-leaf plot(s)**, 434–439  
 defined, 436  
 error analysis, 438  
 leaf, 436  
 stem, 436  
 writing, 438  
**Structure, Throughout. For example, see:**  
 adding decimals, 83  
 box-and-whisker plots, 465  
 coordinate plane, 274  
     reflecting points in, 283  
 exponents, 11  
 direct variation, 635  
 expressions  
     factoring, 141, 567  
     linear, 565  
     simplifying, 556  
 fractions  
     dividing by, 63  
     multiplying, 55  
 greatest common factor, 31  
 integers, 249  
     adding, 483  
     dividing, 503  
     multiplying, 497  
     subtracting, 489  
 interquartile range, 417  
 least common multiple, 37  
 percent proportions, 667  
 polygons in the coordinate plane, 175, 179  
 properties of multiplication, 131  
 ratio tables, 215  
 solving equations, 313, 571  
 subtracting rational numbers, 537  
 surface area of a pyramid, 373  
**Study Tip**  
 additive inverse, 485  
 algebraic expressions, 113  
 amount of error, 679  
 base of a triangular pyramid, 371  
 box-and-whisker plots, 462  
 check for reasonableness, 4  
 composite figures, 172  
 coordinate plane, 278  
 cross products, 609  
 data displays  
     box-and-whisker plots, 461, 462  
     shapes of distribution, 452, 462  
 decimal points, 652  
 decimals  
     adding, 80  
     dividing, 95, 96  
     subtracting, 80  
 direct variation, 636  
 discounts, 684  
 Distributive Property, 135  
 dot plots, 392  
 equivalent fractions and percents, 220  
 exponents, 499  
 expressions  
     algebraic, 112  
     equivalent, 128  
     factoring, 140  
     linear, 563  
     simplifying, 556  
     writing, 121

finding the percent of a number, 226  
fractions, 66  
    adding and subtracting, 43  
    multiplying, 56  
    simplest form, 42  
graphing  
    equations in two variables, 317  
    ordered pairs from a ratio table, 213  
greatest common factor, 32  
inverse operations, 334  
least common denominators, 66  
measures of center, 404  
Multiplicative Inverse Property, 64  
opposites, 485  
order of operations, 18  
ordering decimals and percents, 658  
ordering integers, 257  
percent proportions, 664  
polygons in the coordinate plane, 176, 177  
powers, 499  
prime factorization, 26, 27  
proportional relationships, 613  
ratio tables, 199, 200  
rational numbers, 521, 526  
reciprocals, 64  
simplifying equations, 584  
slope, 630  
solving  
    equations, 303, 304  
    inequalities, 334  
unit cost, 207  
unit rates, 206  
variable by itself, 112  
variables, 121  
volume of a cube, 376  
Subtraction  
of decimals, 78–83  
    error analysis, 82  
    real-life application, 81  
    writing, 82  
equations  
    error analysis, 305  
    real-life application, 304  
    solving by, 300–307  
of expressions  
    error analysis, 565  
    linear, 560–565

modeling, 561  
real-life application, 563  
of fractions, 42–43  
inequalities, solving by, 332–337  
of integers, 488–493  
    error analysis, 492  
    real-life application, 491  
    writing, 492  
of mixed numbers, 43  
Property of  
    Equality, 303, 572  
    Inequality, 334  
of rational numbers, 532–537  
    error analysis, 536  
    real-life application, 535  
    writing, 536  
whole numbers, 4  
Subtraction Property of Equality, 303, 572  
    real-life application, 304  
    writing, 305  
Subtraction Property of Inequality, 334  
    real-life application, 335  
Summary triangle, 266, 674  
**Surface Area**  
    of prisms, 360–365  
    of pyramids, 368–373  
    of a solid, defined, 362

## T

Tables  
    frequency, 441  
    for graphing equations, 317  
Tape diagram(s), 191, 193  
**Term(s)**  
    coefficient, 112  
    constant, 112  
    defined, 112  
    like, 556  
        error analysis, 558  
    variable, 112  
    writing, 558  
**Terminating decimal**  
    defined, 520  
    writing, 522  
**Third quartile**, defined, 414  
Three-dimensional figures, *See*  
    Solids  
Trapezoid(s)  
    area of, 166–171  
        error analysis, 170  
        formula, 168

real-life application, 169  
writing, 167  
**Triangle(s)**  
    area of, 158–163  
        error analysis, 162  
    formula, 160  
    real-life application, 161  
    research, 163  
    writing, 163

## U

**Unit analysis**, defined, 234  
Unit cost, 207  
**Unit rate(s)**, 206–209  
    defined, 206, 600  
    finding, 206  
    unit cost, 207  
    writing, 208, 603  
**U.S. customary system**  
    converting units, 232–237  
        to metric units, 232–237  
    defined, 234

## V

**Variable(s)**  
    coefficient of, 112  
    defined, 112  
    dependent, 316  
    equations in one, 294–299  
        error analysis, 298  
        real-life application, 297  
    equations in two, 314–321  
        defined, 316  
        dependent variable, 316  
        error analysis, 319  
        graphing, 317  
        independent variable, 316  
        real-life application, 318  
        solution of, 316  
    independent, 316

## Venn diagram

    defined, 30  
    for identifying  
        factors, 30–31, 37  
        multiples, 36

## Vertex

    of a solid, defined, 356

## Volume

    defined, 374  
    of rectangular prisms, 374–379  
        formula, 29, 376

**W**

Which One Doesn't Belong?  
*Throughout. For example,*  
*see:*

- absolute value, 480
- algebraic expressions, 115
- area, 170
- comparing fractions, decimals,  
and percents, 654, 660
- coordinate plane, 279
- Distributive Property, 137
- dividing integers, 506
- equations in two variables, 319
- equivalent ratios, 201
- exponents, 14
- factor pairs, 28
- fractions, 67
- measures of center, 407
- percent proportions, 666
- percents, 222
- properties, 130
- rational numbers, 536
- ratios, 194, 610
- solving equations, 574
- statistics
  - mean absolute deviation, 422
  - measures of center, 407
- Whole number(s)
  - adding, 4
  - dividing, 4–6
    - a decimal by, 94
    - error analysis, 8
  - by a fraction, 65
  - real-life application, 6
  - multiplying, 4
    - by decimals, 86
    - error analysis, 8

operations, 2–9  
 choosing among, 2–3  
 modeling, 9

perfect square of, 13  
 defined, 13  
 real-life application, 13

subtracting, 4

Word magnet, 448

Writing, *Throughout. For example,*  
*see:*

- area
  - of a trapezoid, 167
  - of a triangle, 163
- converting units, 236
- decimals
  - adding, 82
  - dividing, 93
  - repeating, 522
  - subtracting, 82
  - terminating, 522
- discounts, 686
- Distributive Property, 137
- Division Property of Equality, 312
- equations, 297
  - equivalent, 574
  - solving, 580
  - in two variables, 314
  - two-step, 586, 587
- expressions
  - algebraic, 112, 120–121, 558
  - error analysis, 122
  - linear, 564
  - modeling, 123
  - real-life application, 121
- fractions, multiplying, 59
- greatest common factor, 34
- inequalities, 332, 338
  - graphing, 329

integers, 249  
 additive inverse of, 486  
 comparing, 258  
 dividing, 506  
 multiplying, 500  
 subtracting, 492

interest rate, 692

least common multiples, 40

markups, 686

measures of center, 407

measures of variation, 417

numerical expressions, 20

order of operations, 20

percents, 222
 

- of decrease, 680
- proportions, 666

perimeter of a rectangle, 178

polygons
 

- area of, 156
- in the coordinate plane, 178

proportions, 618
 

- solving, 626

rates, 206, 603
 

- unit, 208

ratio tables, 214

rational numbers
 

- adding, 528, 529, 539
- dividing, 539, 542
- multiplying, 539, 542
- subtracting, 536, 539

ratios, 192, 218

solving
 

- equations, 305
- inequalities, 336

stem-and-leaf plots, 438