Pre-Algebra Standard Lesson Plan Overview

This Standard Lesson Plan allocates 90 days for each semester.

Test Packet, supplementary material to Student Text and Teacher’s Edition

Student Activities, supplementary material to Student Text and Teacher’s Edition

Teacher’s Toolkit CD, included in Teacher’s Edition

\* Bible Integration topics covered in the Teacher’s Edition or Student Activities

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| Day | Topic | Pages | Support Materials | Bible Integration\* |
| **Chapter 1: Integers** |
| 1 | Introduction | viii–ix |  | * our calling in God’s world (Gen. 1:28; Rom. 11:36)
* live by Christian love(Mark 12:30–31; Phil. 1:9–11)
 |
| 2 | 1.1 Opposites and Absolute Value | 1–5 |  | * a Bible description of opposites (Matt. 12:30)
 |
| 3 | 1.2 Adding Integers | 6–9 | Sum Circles |  |
| 4 | 1.3 Subtracting Integers  | 10–13 | Quiz 1 (1.1–1.2)Adding and Subtraction Integers |  |
| 5 | Math in Use— Josephine Baker1.4 Multiplying Integers | 14–19 | Clock Arithmetic |  |
| 6 | 1.5 Dividing Integers | 19–22 | Quiz 2 (1.3–1.4)Multiplying and Dividing Integers |  |
| 7 | 1.6 Exponents | 23–28 |  |  |
| 8 | Problem Solving—Introduction | 29–30 | Quiz 3 (1.5–1.6)Problem Solving |  |
| 9 | 1.7 Order of Operations | 31–35 | Calculator Skill 1 | * God delights in orderliness (1 Cor. 14:40)
 |
| 10 | 1.8 Scientific Notation | 35–38 | Creation Wonders—Revelation of Stars | * general revelation (Neh. 9:6; Psa. 19:1; Rom. 1:19–20)\*
 |
| 11 | Math & Scripture—Daniel’s Influence | 39 | Quiz 4 (1.7–1.8) | * Infinite Truths (Dan. 1:17)
* understanding and wisdom of Daniel (Dan. 2:48, 5:12, 6:4)
 |
| 12 | Chapter 1 Review | 40–41 | Mathardy: Ch. 1Chapter 1 ReviewCumulative Review 1 |  |
| 13 | Chapter 1 Test |

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| **Chapter 2: Expressions** |
| 14 | 2.1 Properties of Addition | 42–49 | Properties of Addition | * glorify God in your bodies(1 Cor. 6:19–20;10:31)
* the golden rule (Luke 6:31)
* practical biblical principles (2 Cor. 10:12; 1 Pet. 2:21–23)\*
 |
| 15 | Math in Use—Joseph | 50 | Creation Wonders—Invisible Things | * God’s providence (Jer. 29:11; Gen. 37, 39–50)
* accepting creation by faith (Heb. 11:3; Col.1:16–17)\*
 |
| 16 | 2.2 Properties of Multiplication | 51–55 | Properties of Multiplication |  |
| 17 | 2.3 Distributive Property | 55–58 | Quiz 1 (2.1–2.2)Distributive Property |  |
| 18 | 2.4 Evaluating Expressions | 59–62 | Algebraic ProofsCalculator Skill 2 |  |
| 19 | 2.5 Simplifying Expressions | 62–66 | Quiz 2 (2.3–2.4) |  |
| 20 | Problem Solving—Select the Operations | 67–68 | Problem Solving—Select the Operation |  |
| 21 | 2.6 Translating Word Phrases | 69–73 |  |  |
| 22 | 2.7 Estimating  | 74–78 | Left-to-Right Mental Arithmetic |  |
| 23 | Math & Scripture—Joseph’s On-the-Job Training | 79 | Quiz 3 (2.5–2.7) | * Infinite Truths (Prov. 6:6–8)
* Joseph prepared Egypt for the famine (Gen. 41:25–57)
 |
| 24 | Chapter 2 Review | 80–81 | Mathardy: Ch. 2Chapter 2 ReviewCumulative Review 2 |  |
| 25 | Chapter 2 Test |

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| **Chapter 3: Basic Equations and Inequalities** |
| 26 | 3.1 Solving Equations by Adding or Subtracting | 82–90 | Creation Wonders—Earth | * our fellow humans are precious (Gen. 1:27; Mark 12:31)
* God established the earth(Psa. 119:90; Job 26:7–8)\*
 |
| 27 | Problem Solving—Guess and Check | 91–92 | Problem Solving—Guess and Check |  |
| 28 | 3.2 Solving Equations by Multiplying or Dividing | 93–98 | Lattice Squares |  |
| 29 | 3.3 Solving Two-Step Equations | 98–104 | Equations: Working Backwards |  |
| 30 | 3.1–3.3 Review |  | Quiz 1 (3.1–3.3) |  |
| 31 | 3.4 Simplifying Before Solving | 104–8 | Simplifying Before Solving |  |
| 32 | Math in Use—David3.5 Using Equations | 109–15 | Calculator Skill 3 | * A man after God’s own heart (2 Sam 24:10; Acts 13:22)
 |
| 33 | 3.6 Sets of Numbers and Inequalities | 115–19 | Quiz 2 (3.4–3.5) |  |
| 34 | 3.7 Solving Linear Inequalities | 120–25 |  |  |
| 35 | 3.8 Using Inequalities | 126–30 |  |  |
| 36 | Math & Scripture—King David’s Unwise Census | 131 | Quiz 3 (3.6–3.8) | * Infinite Truths (Job 31:6)
* comparing census numbers (2 Sam 24; 1 Chron. 21)
 |
| 37 | Chapter 3 Review | 132–33 | Mathardy: Ch. 3Chapter 3 ReviewCumulative Review 3 |  |
| 38 | Chapter 3 Test |

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| **Chapter 4: Number Theory** |
| 39 | 4.1 Prime and Composite Numbers | 134–41 | Creation Wonders—The FloodPrime and Composite Numbers | * universal flood (Gen. 7:19; 9:11; 2 Peter 5:6)\*
 |
| 40 | 4.2 Prime Factorization | 141–44 | Perfect, Deficient, and Abundant Numbers | * “prove all things” (1 Thess. 5:21)
 |
| 41 | 4.3 Greatest Common Factor | 144–48 | Quiz 1 (4.1–4.2) | * cleansing from sin (Rom. 3:23; 1 John 1:1)
 |
| 42 | 4.4 Least Common Multiple | 148–52 | GCF and LCMCalculator Skill 4 |  |
| 43 | 4.5 Arithmetic Sequences | 152–58 | Quiz 2 (4.3–4.4) | * Christ is our example (1 Pet. 2:21)
 |
| 44 | 4.6 Geometric Sequences | 158–61 | Arithmetic and Geometric Sequences |  |
| 45 | 4.5–4.6 Review |  | Quiz 3 (4.5–4.6) |  |
| 46 | Problem Solving—Look For a Pattern | 162–64 | Problem Solving—Patterns |  |
| 47 | 4.7 Bases | 165–69 |  |  |
| 48 | Math in Use—Daniel4.8 Operations in Bases | 170–74 |  | * prophecy of seventy weeks (Dan. 9:25–27)
 |
| 49 | Math & Scripture—Daniel’s Seventy Weeks | 175 | Quiz 4 (4.7–4.8) | * Infinite Truths (Dan. 9:24)
* accuracy of Scripture verified through fulfilled prophecy (Jer. 25:11)\*
 |
| 50 | Chapter 4 Review | 176–77 | Mathardy: Ch. 4Chapter 4 ReviewCumulative Review 4 |  |
| 51 | Chapter 4 Test |

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| **Chapter 5: Rational Numbers** |
| 52 | 5.1 Forms of Rational Numbers | 178–85 | Creation Wonders—TreesRational Number Forms | * trees used for building and as a symbol (1 Kings 1:5; Psa. 1:3)\*
* finite life (Psa. 90:10), eternal life (Matt. 25:46; John 3:36)
 |
| 53 | 5.2 Comparing Rational Numbers | 186–91 |  |  |
| 54 | Problem Solving—Draw a Picture | 192–93 | Quiz 1 (5.1–5.2)Problem Solving—Make a Sketch |  |
| 55 | 5.3 Decimal Equivalents | 194–98 | Patterns with Fractions Calculator Skill 5 |  |
| 56 | 5.4 Ratio and Rate | 198–202 |  |  |
| 57 | 5.5 Proportions  | 202–7 | Quiz 2 (5.3–5.4)Solving Problems Using Proportions |  |
| 58 | Math in Use—Eleazar5.6 Percent | 208–14 | Pascal’s Triangle | * Eleazar’s obedience (Num. 3:32, 16:36–40, 31:31; Lev. 10:16–20)
 |
| 59 | Math & Scripture—Math and the Priests | 215 | Quiz 3 (5.5–5.6) | * Infinite Truths (Lev. 27:32)
* fractions (Lev. 5, 6, 22, 27)
* biblical units of dry measure for volume (Ex. 16; Ezek. 45:11)
 |
| 60 | Chapter 5 Review | 216–17 | Mathardy: Ch. 5Chapter 5 ReviewCumulative Review 5 |  |
| 61 | Chapter 5 Test |

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| **Chapter 6: Operations on Rational Numbers** |
| 62 | 6.1 Addition and Subtraction | 218–25 | Addition and Subtraction of Rational Numbers |  |
| 63 | 6.2 Multiplication  | 226–30 | Multiplication of Fractions |  |
| 64 | Math in Use—John Philip Sousa | 231 | Quiz 1 (6.1–6.2)Creation Wonders—Whales | * Jonah and the great fish (Matt. 12:40)\*
 |
| 65 | 6.3 Division | 232–36 | Multiplication and Division of Rational Numbers |  |
| 66 | 6.4 Evaluating Algebraic Expressions | 237–40 | Pascal’s Triangle and Fractions |  |
| 67 | 6.5 Simplifying Algebraic Expressions | 240–44 | Quiz 2 (6.3–6.4) |  |
| 68 | 6.6 Solving Equations with Rational Numbers | 244–47 |  |  |
| 69 | Problem Solving—Divide and Conquer | 248–49 | Quiz 3 (6.5–6.6)Problem Solving—Divide and Conquer |  |
| 70 | 6.7 Using Algebra | 250–54 |  |  |
| 71 | 6.8 Operations with Scientific Notation | 254–58 | Calculator Skill 6 |  |
| 72 | Math & Scripture—The Wilderness Tabernacle | 259 | Quiz 4 (6.7–6.8) | * Infinite Truths (Ex. 29:32)
* God’s detailed designs (Ex. 25–31, 35–40
* a perfect sacrifice (Heb. 9:28)\*
 |
| 73 | Chapter 6 Review | 260–61 | Mathardy: Ch. 6Chapter 6 ReviewCumulative Review 6 |  |
| 74 | Chapter 6 Test |

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| **Chapter 7: Percents** |
| 75 | 7.1 Forms of Percents | 262–69 | Visualizing Percent | * the virtuous woman (Prov. 31:10–31)
 |
| 76 | 7.2 Solving Percent Equations | 269–74 | Solving Basic Percent Equations |  |
| 77 | Problem Solving—Mixed Review | 275 | Quiz 1 (7.1–7.2) |  |
| 78 | 7.3 Using Percents | 276–80 | Creation Wonders—The Bat | * biblical references to bats (Lev. 11:19; Deut. 14:18; Isa. 2:20)\*
 |
| 79 | 7.4 Scales | 281–86 | Scale Drawings |  |
| 80 | Math in Use—Julia Morgan | 287 | Quiz 2 (7.3–7.4) |  |
| 81 | 7.5 Discount and Markup | 288–92 | Problem Solving—Percents |  |
| 82 | 7.6 Commissions and Tips | 292–96 | Graduated Commission |  |
| 83 | 7.7 Interest | 297–302 | Quiz 3 (7.5–7.6)Calculator Skill 7 |  |
| 84 | 7.8 Percent Change | 302–6 |  |  |
| 85 | Math & Scripture—Solomon’s Temple | 307 | Quiz 4 (7.7–7.8) | * Infinite Truths (1 Kings 6:37–38)
* the temple a pattern of heavenly things (Heb. 8:5)\*
* tearing of the veil (Matt. 27:51)\*
 |
| 86 | Chapter 7 Review | 308–9 | Mathardy: Ch. 7Chapter 7 ReviewCumulative Review 7 |  |
| 87 | Chapter 7 Test |
| 88 | Review for Final Exam |
| 89 | Review for Final Exam |
| 90 | Final Exam (Chapters 1–7) |

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| **Chapter 8: Applying Equations and Inequalities** |
| 91 | 8.1 Simplifying Equations | 310–16 | Creation Wonders—The Human Cell | * God’s handiwork (Psa. 19:1)
* God’s creation work in His own image (Psa. 139:14; Gen. 1:27)\*
 |
| 92 | Math in Use—Moses8.2 Variables on Both Sides | 317–22 | Simplifying—Variables on Two SidesEquation Versus Identity | * wisdom of Moses (Acts 7:22)
* meekness of Moses (Num. 12:3)
 |
| 93 | 8.3 Applying Equations | 323–28 | Calculator Skill 8 |  |
| 94 | Problem Solving—Write an Equation | 329–30 | Quiz 1 (8.1–8.3)Art and Design |  |
| 95 | 8.4 Solving Inequalities | 331–35 |  |  |
| 96 | 8.5 Applying Inequalities | 335–40 | Problem Solving—Equations and Inequalities |  |
| 97 | Math & Scripture—Ezekiel’s Temple Vision | 341 | Quiz 2 (8.4–8.5) | * Infinite Truths (Ezek. 43:2,4)
* God’s holiness and glory should inspire worship and praise (Ezek. 40–43)
 |
| 98 | Chapter 8 Review | 342–43 | Mathardy: Ch. 8Chapter 8 ReviewCumulative Review 8 |  |
| 99 | Chapter 8 Test |

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| **Chapter 9: Relations and Functions** |
| 100 | 9.1 The Coordinate Plane | 344–49 | Graphing |  |
| 101 | 9.2 Relations | 350–54 |  | * receiving Christ and becoming sons of God (John 1:12)
 |
| 102 | Problem Solving—Make a Table | 355–56 | Quiz 1 (9.1–9.2) |  |
| 103 | 9.3 Functions | 357–61 |  |  |
| 104 | Math in Use—Benjamin Banneker | 362 | Creation Wonders—The Human EyePoinsot Stars | * the blessing of God’s gift of sight (Matt. 6:22–23; 1 Cor. 2:9)
 |
| 105 | 9.4 Graphing Linear Functions | 363–67 |  | * God’s plumb line in Israel (Amos 7:7–8)
 |
| 106 | 9.5 Slope | 368–73 | Quiz 2 (9.3–9.4) |  |
| 107 | 9.6 Slope-Intercept Form | 373–78 | Graphing Linear Functions |  |
| 108 | 9.7 Direct Vatriations | 378–83 | Quiz 3 (9.5–9.6)Direct Variation | * consistency of seasonal changes (Gen. 8:22)
 |
| 109 | 9.8 Graphing Linear Inequalities | 383–86 | Problem Solving—Function Applications |  |
| 110 | Math & Scripture—Stewardship of Wealth | 387 | Quiz 5 (9.7–9.8)Calculator Skill 9 | * Infinite Truths (1 Cor. 4:2)
* be good stewards of our spiritual wealth (1 Pet. 4:10)
 |
| 111 | Chapter 9 Review | 388–89 | Mathardy: Ch. 9Chapter 9 ReviewCumulative Review 9 |  |
| 112 | Chapter 9 Test |

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| **Chapter 10: Statistics and Probability** |
| 113 | 10.1 Statistical Measures | 390–97 | Creation Wonders—The Human Ear | * hear the Word of God (Isa. 66:5; Jer. 2:4, Deut. 5:1; Rom. 10:17)\*
 |
| 114 | 10.2 Diagramming Data | 397–404 |  |  |
| 115 | 10.3 Histograms | 404–10 | Quiz 1 (10.1–10.2) |  |
| 116 | 10.4 Graphing Data | 411–17 | Statistical Sampling |  |
| 117 | Problem Solving—Make a Graph | 418–19 | Quiz 2 (10.3–10.4)Problem Solving—Using Graphs |  |
| 118 | 10.5 Fundamental Principle of Counting | 420–24 |  |  |
| 119 | 10.6 Permutations | 424–28 |  |  |
| 120 | 10.7 Combinations | 429–32 | Calculator Skill 10Combinations |  |
| 121 | 10.5–10.7 Review |  | Quiz 3 (10.5–10.7) |  |
| 122 | 10.8 ProbabilityMath in Use—Gideon | 432–38 |  | * Gideon’s doubt (Judg. 6:15)
* Gideon’s trust (Judg. 7:20)
 |
| 123 | 10.9 Independent and Dependent Events | 439–43 |  |  |
| 124 | Math & Scripture—Gideon’s Big Task | 444 | Quiz 4 (10.8–10.9) | * Infinite Truths (Prov. 16:33)
* Gideon’s army (Judg. 6–8)
 |
| 125 | Chapter 10 Review | 445–47 | Mathardy: Ch. 10Chapter 10 ReviewCumulative Review 10 |  |
| 126 | Chapter 10 Test |

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| **Chapter 11: Radicals** |
| 127 | 11.1 Square Roots | 448–54 |  | * man created in the image of God (Gen. 1:27)
 |
| 128 | Problem Solving—Work Backwards | 455–56 | Problem Solving—Work BackwardsNumbers That Surprise |  |
| 129 | 11.2 Radical Equations | 457–61 | Solving Equations Containing Radicals | * determine true Christians by their fruits (Matt. 7:15–16)
 |
| 130 | 11.3 Equations with Exponents | 461–64 | Solving Equations Containing Exponents |  |
| 131 | 11.1–11.3 Review |  | Quiz 1 (11.1–11.3) |  |
| 132 | 11.4 The Pythagorean Theorem | 465–68 | Creation Wonders—The Human Heart | * “keep thy heart with all diligence” (Prov. 4:20–23)\*
 |
| 133 | Math in Use—Bowditch11.5 Products and Quotients of Radicals | 469–74 |  | * the gospel (1 Cor. 15:3–4)
 |
| 134 | 11.4–11.5 Review |  | Quiz 2 (11.4–11.5) |  |
| 135 | 11.6 Sums and Differences of Radicals | 475–78 | Simplifying Radicals |  |
| 136 | 11.7 Cube Roots | 478–81 | Cube Roots |  |
| 137 | Math & Scripture—The New Jerusalem | 482 | Quiz 3 (11.6–11.7)Calculator Skill 11 | * Infinite Truths (Rev. 21:16)
* focus on heaven as you live(Matt. 6:19–21)\*
 |
| 138 | Chapter 11 Review | 483 | Mathardy: Ch. 11Chapter 11 ReviewCumulative Review 11 |  |
| 139 | Chapter 11 Test |

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| **Chapter 12: Geometry** |
| 140 | 12.1 Basic Geometric Figures | 484–90 | Figurate Numbers | * Noah’s ark (Gen. 6:14–16)
* Noah’s faith (Heb. 11:7)
 |
| 141 | 12.2 Pairs of Angles | 491–96 | AnglesGeometric Proofs |  |
| 142 | Problem Solving—Organize Data with Diagrams | 497–99 | Quiz 1 (12.1–12.2)Problem Solving—Tables and Venn Diagrams |  |
| 143 | 12.3 Polygons | 500–7 | Calculator Skill 12 |  |
| 144 | 12.4 Perimeter and Circumference | 508–13 | Creation Wonders—The Human Brain | * God’s wisdom established all things (Rom. 11:34–36)
 |
| 145 | 12.5 Congruence and Similarity | 513–19 | Quiz 2 (12.3–12.4)Congruence and Similarity | * follow Christ’s example(1 Pet. 2:21)
 |
| 146 | 12.6 Special Right Triangles | 520–25 | Special Triangles |  |
| 147 | Math in Use—M. C. Escher | 526 | Quiz 3 (12.5–12.6) |  |
| 148 | 12.7 Coordinate Geometry | 527–31 | Coordinate Geometry—Distance and Midpoint |  |
| 149 | 12.8 Symmetry and Transformations | 532–38 |  | * transformation by renewing our minds (Rom. 12:2)
 |
| 150 | Math & Scripture—Building the Walls and Gates | 539 | Quiz 4 (12.7–12.8) | * catching the vision to build (Neh. 2:18)
* Infinite Truths (Neh. 6:15–16)
 |
| 151 | Chapter 12 Review | 540–41 | Mathardy: Ch. 12Chapter 12 ReviewCumulative Review 12 |  |
| 152 | Chapter 12 Test |

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| **Chapter 13: Area and Volume** |
| 153 | 13.1 Areas of Parallelograms | 542–48 |  | * instruction from observing ants (Prov. 6:6–11)\*
 |
| 154 | 13.2 Areas of Triangles and Trapezoids | 549–53 | Areas |  |
| 155 | 13.3 Areas of Circles | 553–57 | Quiz 1 (13.1–13.2) |  |
| 156 | 13.4 Lengths and Areas of Similar Regions | 557–61 |  |  |
| 157 | 13.5 Surface Areas of Prisms and Cylinders | 562–67 | Quiz 2 (13.3–13.4) |  |
| 158 | 13.6 Surface Areas of Pyramids, Cones, and Spheres  | 567–73 | Surface Areas of Three-Dimensional FiguresDeltahedra |  |
| 159 | 13.5–13.6 Review |  | Quiz 3 (13.5–13.6) |  |
| 160 | Problem Solving—Predict with Graphs | 574–75 | Creation Wonders—Human Blood | * the blood of Christ cleanses us (1 John 1:7; Heb. 10:10–22)\*
 |
| 161 | 13.7 Volumes of Prisms and CylindersMath in Use—Ruth | 576–81 |  | * Ruth’s loyalty and virtue (Ruth 1:16, 3:11)
 |
| 162 | 13.8 Volumes of Pyramids, Cones, and Spheres | 582–86 | Volumes of Three-Dimensional FiguresCalculator Skill 13 |  |
| 163 | Math & Scripture—God’s Wisdom and Noah’s Faithful Work | 587 | Quiz 4 (13.7–13.8)Problem Solving—Area and Volume | * Infinite Truths (Gen. 6:22)
* Noah’s testimony (2 Pet. 2:5)
 |
| 164 | Chapter 13 Review | 588–89 | Mathardy: Ch. 13Chapter 13 ReviewCumulative Review 13 |  |
| 165 | Chapter 13 Test |

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| **Chapter 14: Polynomials** |
| 166 | 14.1 Types of Polynomials | 590–95 | Prime-Generating Polynomials | * God’s manifold works of wisdom(Psa. 104:24)
* Christian monotheism(Deut. 6:4)
 |
| 167 | 14.2 Adding Polynomials | 596–99 | Creation Wonders—The Senses of Smell and Taste | * biblical references to taste and smell (Psa. 34:8; Eph. 5:2)
 |
| 168 | 14.3 Subtracting Polynomials | 599–602 | Quiz 1 (14.1–14.2) |  |
| 169 | Problem Solving—Mixed Review | 603 | Adding and Subtracting Polynomials |  |
| 170 | 14.4 Multiplying by a MonomialMath in Use—Charles Babbage | 604–8 | Calculator Skill 14Problem Solving—Multiple Strategies | * laborers together for Christ(1 Cor. 3:6–9)\*
 |
| 171 | 14.5 Multiplying Binomials | 609–11 | Multiplying BinomialsQuiz 2 (14.3–14.4) |  |
| 172 | 14.6 Dividing by a Monomial | 612–15 | Multiplying and Dividing by Monomials |  |
| 173 | 14.7 Applying Algebra | 616–20 | Using Algebra |  |
| 174 | 14.5–14.7 Review |  | Quiz 3 (14.5–14.7) |  |
| 175 | Math & Scripture—Shipwrecked | 621 |  | * Infinite Truths (Acts 27:22)
* “the just shall live by his faith” (Hab. 2:4; Rom. 1:17)\*
 |
| 176 | Chapter 14 Review | 622–23 | Mathardy: Ch. 14Chapter 14 ReviewCumulative Review 14 |  |
| 177 | Chapter 14 Test  |
| 178 | Review for Final Exam |
| 179 | Review for Final Exam |
| 180 | Final Exam (Chapters 7–14) |