Mastery Bank Recommended Topics by Textbook

|  |  | Recommended skills to have if you will be entering... |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Topic | Sub Topic | $\begin{gathered} \text { Saxon } 5 / 4 \\ \text { or } \\ \text { Intermediate } 5 \end{gathered}$ | Saxon 6/5 or Intermediate 5 | Saxon 7/6 or Course 1 | Saxon 8/7 or Course 2 | Algebra $\mathbf{1 / 2}$ or Course 3 | Algebra 1 | Algebra 2 | Geometry | Advanced Math |
| Time | Reading Time on a Clock on the 5 or 10 minute mark | X | X | X | X | X | X | X | X | X |
|  | Reading Time on a Clock | X | X | X | X | X | X | X | X | X |
| Numbers \& Properties | Whole Numbers on a Number Line | X | X | X | X | X | X | X | X | X |
|  | Comparing Whole Numbers | X | X | X | X | X | X | X | X | X |
|  | Properties of Operations (Commutative, Distributive, Associative, Identity) |  |  |  | X | X | X | X | X | X |
|  | Complete the Sequence |  | X | X | X | X | X | X | X | X |
| Place Value | The Hundreds Place | X | X | X | X | X | X | X | X | X |
|  | Numbers up to 999 | X | X | X | X | X | X | X | X | X |
|  | Numbers up to the Hundred Thousands |  | X | X | X | X | X | X | X | X |
|  | Numbers up to the Hundred Millions |  | X | X | X | X | X | X | X | X |
| Rounding | Rounding Numbers to the Nearest Ten | X | X | X | X | X | X | X | X | X |
|  | Rounding Numbers to the Nearest Hundred |  | X | X | X | X | X | X | X | X |
|  | Rounding Numbers to the Nearest Thousand |  | X | X | X | X | X | X | X | X |
|  | Rounding Numbers to the Nearest Million, Billion and Trillions |  |  | X | X | X | X | X | X | X |
|  | Estimating Addition and Subtraction Answers |  | X | X | X | X | X | X | X | X |
|  | Estimating Multiplication and Division Answers |  | X | X | X | X | X | X | X | X |
| Addition | Addition with Two Digits - No Regrouping | X | X | X | X | X | X | X | X | X |
|  | Addition with Two Digits - Some Regrouping | X | X | X | X | X | X | X | X | X |
|  | Addition with Three Digits - No Regrouping | X | X | X | X | X | X | X | X | X |
|  | Addition with Three Digits - Some Regrouping | X | X | X | X | X | X | X | X | X |
|  | Addition with More Than Three Digits | X | X | X | X | X | X | X | X | X |
| Subtraction | Subtraction with Two Digits - No Regrouping | X | X | X | X | X | X | X | X | X |
|  | Subtraction with Two Digits - Some Regrouping | X | X | X | X | X | X | X | X | X |
|  | Subtraction with Three Digits - No Regrouping | X | X | X | X | X | X | X | X | X |
|  | Subtraction with Three Digits - Some Regrouping | X | X | X | X | X | X | X | X | X |
|  | Subtraction with More Than Three Digits | X | X | X | X | X | X | X | X | X |
|  | Subtraction Across Zero | X | X | X | X | X | X | X | X | X |
| Multiplication | Multiply Two Digit by One Digit - No Regrouping | X | X | X | X | X | X | X | X | X |
|  | Multiply Two Digit by One Digit - Regrouping | X | X | X | X | X | X | X | X | X |
|  | Multiply Three Digit by One Digit - Regrouping | X | X | X | X | X | X | X | X | X |
|  | Multiply Three Digit by One Digit | X | X | X | X | X | X | X | X | X |
|  | Multiply Two Digit by Two Digit |  | X | X | X | X | X | X | X | X |
|  | Multiply Three Digit by Two Digit |  |  | X | X | X | X | X | X | X |
|  | Multiply Three Digit by Three Digit |  |  | X | X | X | X | X | X | X |
|  | Multiplication by 7 | X | X | X | X | X | X | X | X | X |
|  | Multiplication by 9 | X | X | X | X | X | X | X | X | X |
|  | Multiplication by 10 | X | X | X | X | X | X | X | X | X |
|  | Multiplication by Multiples of 10 |  |  | X | X | X | X | X | X | X |
|  | Multiplication by 12 |  |  | X | X | X | X | X | X | X |
|  | Dividing by a One-Digit Divsor - With Remainders | X | X | X | X | X | X | X | X | X |
|  | Dividing by a One-Digit Divsor- No Remainders | X | X | X | X | X | X | X | X | X |

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| Topic | Sub Topic | Saxon 5/4 or Intermediate 5 | Saxon 6/5 or Intermediate 5 | Saxon 7/6 or Course 1 | Saxon 8/7 or Course 2 | Algebra $\mathbf{1 / 2}$ or Course 3 | Algebra 1 | Algebra 2 | Geometry | Advanced Math |
|  | Dividing by a Two-Digit Divisor - Beginner |  |  | X | X | X | X | X | X | X |
| Division | Dividing by a Two-Digit Divisor - Advanced |  |  |  | X | X | X | X | X | X |
|  | Dividing by 10 | X | X | X | X | X | X | X | X | X |
|  | Dividing by Multiples of 10 |  |  | X | X | X | X | X | X | X |
|  | Dividing with Zeros in the Quotient |  | X | X | X | X | X | X | X | X |
|  | Missing numbers in Addition (2 Addends) | X | X | X | X | X | X | X | X | X |
|  | Missing numbers in Addition (3 or More Addends) |  |  |  | X | X | X | X | X | X |
|  | Missing Numbers in Subtraction |  | X | X | X | X | X | X | X | X |
|  | Missing Numbers in Multiplication |  |  | X | X | X | X | X | X | X |
| Missing Numbers | Missing Numbers in Division |  |  | X | X | X | X | X | X | X |
|  | Missing Numbers - Mixed (Addition, Subtraction, Multiplication and Division) |  |  | X | X | X | X | X | X | X |
|  | Missing Numbers - Mixed (Addition, Subtraction, Multiplication and Division) with 3 or more addends |  |  |  | X | X | X | X | X | X |
|  | Rounding Dollars |  | X | X | X | X | X | X | X | X |
| Money | Adding Money |  | X | X | X | X | X | X | X | X |
|  | Subtracting Money |  | X | X | X | X | X | X | X | X |
|  | Addition Word Problems |  | X | X | X | X | X | X | X | X |
|  | Subtraction Word Problems |  | X | X | X | X | X | X | X | X |
|  | Multiplication Word Problems |  | X | X | X | X | X | X | X | X |
|  | Division Word Problems |  | X | X | X | X | X | X | X | X |
| Word Problems | Mixed Word Problems (Addition, Subtraction, Multiplication, Division) |  |  | X | X | X | X | X | X | X |
|  | Word problems with remainders |  | X | X | X | X | X | X | X | X |
|  | Two-Step Word problems |  | X | X | X | X | X | X | X | X |
|  | Rate Word problems |  | X | X | X | X | X | X | X | X |
|  | Fractions of a Group |  |  |  | X | X | X | X | X | X |
|  | Order of Operations with Parentheses and No Parentheses (Beginner) |  |  |  | X | X | X | X | X | X |
|  | Order of Operations with Parentheses and No Parentheses (Advanced) |  |  |  | X | X | X | X | X | X |
| Order Of Operations | Order of Operations with Exponents and Sqaure roots (Intermediate) |  |  |  | X | X | X | X | X | X |
|  | Order of Operations with Exponents and Sqaure roots (Beginner) |  |  |  | X | X | X | X | X | X |
|  | Divisibility Rules (2, 3,4, 6, 8, 9) |  |  |  |  | X | X | X | X | X |
|  | Factors |  |  | X | X | X | X | X | X | X |
| Factors \& Multiples | Greatest Common Factor |  |  |  | X | X | X | X | X | X |
|  | Least Common Multiples |  |  |  | X | X | X | X | X | X |
|  | Naming Fractions | X | X | X | X | X | X | X | X | X |
|  | Reading Fractions on a Number Line |  | X | X | X | X | X | X | X | X |
|  | Rounding Fractions |  |  | X | X | X | X | X | X | X |

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|  |  | Saxon 5/4 or Intermediate 5 | Saxon 6/5 or Intermediate 5 | Saxon 7/6 or Course 1 | Saxon 8/7 or Course 2 | $\begin{aligned} & \text { Algebra } 1 / 2 \\ & \text { or } \\ & \text { Course } 3 \end{aligned}$ | Algebra 1 | Algebra 2 | Geometry | Advanced Math |
| Fraction Basics | Equivalent Fractions |  |  | X | X | X | X | X | X | X |
|  | Simplifying Fractions - Easy |  |  | X | X | X | X | X | X | X |
|  | Simplifying Fractions - Hard |  |  | X | X | X | X | X | X | X |
|  | Comparing Fractions |  |  |  | X | X | X | X | X | X |
|  | Convert Improper Fractions to Whole/Mixed Numbers - No Simplifying |  | X | X | X | X | X | X | X | X |
|  | Convert Improper Fractions to Whole/Mixed Numbers Simplifying |  |  |  |  |  |  |  |  |  |
|  |  |  |  | X | X | X | X | X | X | X |
|  | Converting Mixed Numbers to Improper Fractions |  |  |  | X | X | X | X | X | X |
| Adding and Subtracting Fractions Common Denominators | Adding Fractions with Common Denominators | X | X | X | X | X | X | X | X | X |
|  | Subtracting Fractions with Common Denominators | X | X | X | X | X | X | X | X | X |
|  | Adding and Subtracting Mixed Numbers with Common Denominators - No Regrouping |  |  |  | X | X | X | X | X | X |
|  | Adding and Subtracting Mixed Numbers with Common Denominators - Regrouping the Final Answer |  |  |  | X | X | X | X | X | X |
| Adding and Subtracting Fractions Uncommon Denominators | Adding Fractions with Different Denominators |  |  | X | X | X | X | X | X | X |
|  | Subtracting Fractions with Different Denominators |  |  | X | X | X | X | X | X | X |
|  | Adding and Subtracting Mixed Numbers with Different Denominators - No Regrouping |  |  |  | X | X | X | X | X | X |
|  | Adding Mixed Numbers with Different Denominators (with regrouping) |  |  |  | X | X | X | X | X | X |
|  | Adding Mixed Numbers with Different Denominators - No regrouping |  |  |  | X | X | X | X | X | X |
|  | Subtracting Mixed Numbers with Common and Uncommon Denominators |  |  |  | X | X | X | X | X | X |
| Multiplying and Dividing Fractions | Multiplying Fractions - No Simplifying |  |  |  | X | X | X | X | X | X |
|  | Multiplying Fractions - Simplifying |  |  |  | X | X | X | X | X | X |
|  | Multiplying Fractions with a Whole Number |  |  |  | X | X | X | X | X | X |
|  | Multiplying Fractions and Mixed Numbers |  |  |  | X | X | X | X | X | X |
|  | Multiplying Two Mixed Numbers |  |  |  | X | X | X | X | X | X |
|  | Dividing Fractions |  |  |  | X | X | X | X | X | X |
|  | Dividing Mixed Numbers -Easy |  |  |  | X | X | X | X | X | X |
|  | Dividing Mixed Numbers - Hard |  |  |  | X | X | X | X | X | X |
| Advanced Fractions | Complex Fractions |  |  |  |  | X | X | X | X | X |
|  | Fractions Calculations |  |  |  | X | X | X | X | X | X |
| Decimal Basics | Naming Decimals |  | X | X | X | X | X | X | X | X |
|  | Place Value of Decimals |  | X | X | X | X | X | X | X | X |
|  | Reading Decimals on a Number Line |  |  | X | X | X | X | X | X | X |
|  | Rounding Decimals |  |  | X | X | X | X | X | X | X |
|  | Comparing Decimals |  |  | X | X | X | X | X | X | X |
|  | Adding and subtracting decimal numbers |  | X | X | X | X | X | X | X | X |

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| Decimals: | Multiplying Decimals |  |  |  | X | X | X | X | X | X |
| Adding, | Multiplying Decimals by 10,100 and 1000 |  |  |  | X | X | X | X | X | X |
| Subtracting, | Dividing with Decimals in the Dividend |  |  |  | X | X | X | X | X | X |
| Multiplying and | Dividing Decimals by 10, 100 and 1000 |  |  |  | X | X | X | X | X | X |
|  | Divising with Decimals in the Divisor |  |  |  | X | X | X | X | X | X |
|  | Dividing with Decimals in the Divdend and in the Divisor |  |  |  | X | X | X | X | X | X |
|  | Percent of a Number(New)(Less than 100\%) |  |  |  | X | X | X | X | X | X |
|  | Percent of a Number(New)(More than 100\%) |  |  |  |  | X | X | X | X | X |
|  | Percent Calculations |  |  |  | X | X | X | X | X | X |
| Percents | Simple Rate Problems |  |  |  |  | X | X | X | X | X |
|  | Complex Rate Problems |  |  |  |  |  | X | X | X | X |
|  | Simple interest problems |  |  |  |  |  | X | X | X | X |
|  | Compound interest problems |  |  |  |  |  | X | X | X | X |
|  | Converting Fractions to Decimals |  |  |  | X | X | X | X | X | X |
|  | Converting Fractions to Percents |  |  |  | X | X | X | X | X | X |
|  | Converting Decimals to Fractions |  |  |  | X | X | X | X | X | X |
| Conversions - | Converting Decimals to Percents |  |  |  | X | X | X | X | X | X |
| Decimals, | Converting Percents to Decimals |  |  |  | X | X | X | X | X | X |
| Fractions and | Converting Percents to Fractions |  |  |  | X | X | X | X | X | X |
| Percents | Converting Mixed Number Percents to Fractions |  |  |  |  | X | X | X | X | X |
|  | Converting Mixed Number Percents to Decimals |  |  |  |  | X | X | X | X | X |
|  | Conversions - Mixed |  |  |  |  | X | X | X | X | X |
|  | Converting Repeating Decimal Number to Fractions |  |  |  |  |  |  |  |  | X |
| What Number? Fraction? Percent Problems | What Number?, What Fraction? and What Percent? Problems (Fraction and Percent calculations) |  |  |  |  | X | X | X | X | X |
|  | Solving Proportions |  |  |  | X | X | X | X | X | X |
|  | Unit Rate |  |  |  |  | X | X | X | X | X |
| $R$ | Ratio Word Problems |  |  |  | X | X | X | X | X | X |
|  | Ratio Word Problems Involving Totals |  |  |  | X | X | X | X | X | X |
|  | Ratio Word Problems with Percents |  |  |  |  |  | X | X | X | X |
|  | Number Lines - Positive and Negative Numbers |  |  |  | X | X | X | X | X | X |
| Integers - Positive | Comparison - Postive and Negative Numbers |  |  |  |  | X | X | X | X | X |
| and Negative | Multiplying and Dividing Positive and Negative Numbers |  |  |  |  | X | X | X | X | X |
| Numbers | Addition Using Negative Numbers |  |  |  |  | X | X | X | X | X |
|  | Subtraction Using Negative Numbers |  |  |  |  | X | X | X | X | X |
|  | Positive Exponents |  |  |  |  | X | X | X | X | X |
|  | Powers of Negative Numbers |  |  |  |  | X | X | X | X | X |
| Basic Exponents | Negative Exponents |  |  |  |  | X | X | X | X | X |
|  | Law of Exponents (Multiplying and Dividing same bases with Exponents and Raising a Power to a Power) |  |  |  |  |  |  | X | X | X |
| Srientifir Notation | Scientific Notation for Very Large and Very Small Numbers |  |  |  |  |  |  | X | X | X |

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|  | Multiplying and Dividing Numbers in scientific Notation |  |  |  |  |  |  | X | X | X |
| Square Roots | Perfect Square Roots |  |  |  | X | X | X | X | X | X |
|  | Non-Perfect Square Roots |  |  |  |  |  |  | X |  | X |
|  | Adding and Subtracting Radicals |  |  |  |  |  |  | X |  | X |
|  | Multiplying and Dividing Radicals |  |  |  |  |  |  | X |  | X |
|  | Rationalize the Denominator |  |  |  |  |  |  |  |  | X |
| Measurement (Unit Multipliers) | Arithmetic with Units of Measure |  |  |  | X | X | X | X | X | X |
|  | Measurement Conversions - Unit Multiplers |  |  |  |  | X | X | X | X | X |
|  | Measurement Conversations - Squared Unit Multiplers |  |  |  |  |  |  | X | X | X |
|  | Measurement Conversations - Cubed Unit Multiplers |  |  |  |  |  |  | X | X | X |
| Probability \& Statistics | Finding the Average |  |  |  | X | X | X | X | X | X |
|  | Finding the Number when given the Average |  |  |  |  | X | X | X | X | X |
|  | Mean, Median, Range, Mode |  |  |  |  | X | X | X | X | X |
| Algebraic Terms and Expressions | Simplifying Terms |  |  |  |  |  |  | X | X | X |
|  | Adding and Subtracting Terms |  |  |  |  |  |  | X | X | X |
|  | Multiplying and Dividing Terms |  |  |  |  |  |  | X | X | X |
|  | Distributing Terms |  |  |  |  |  |  | X | X | X |
|  | Factoring Algebraic Expressions |  |  |  |  |  |  | X | X | X |
|  | Evaluating Expressions |  |  |  |  |  |  | X | X | X |
|  | Factoring Binomials |  |  |  |  |  |  | X | X | X |
|  | Factoring Trinomials |  |  |  |  |  |  | X | X | X |
|  | Multiplying Monomials |  |  |  |  |  |  | X | X | X |
|  | Multiplying Binomials |  |  |  |  |  |  | X | X | X |
|  | Multiplying Polynomials |  |  |  |  |  |  | X | X | X |
| Linear Equations | One-Step Equations |  |  |  |  |  |  | X | X | X |
|  | Two-Step Equations |  |  |  |  |  |  | X | X | X |
|  | Parts of an Equation: Finding $x$ and $y$-intercepts |  |  |  |  |  |  | X | X | X |
|  | Finding slope and $y$-intercept by reading a graph |  |  |  |  |  |  | X | X | X |
|  | Finding slope and y -intercept using $\mathrm{y}=\mathrm{mx}+\mathrm{b}$ |  |  |  |  |  |  | X | X | X |
| System of Equations | Solving Systems of Equations - Substitution \& Elimination |  |  |  |  |  |  | X | X | X |
| Inequalities | Solving Linear Inequalities |  |  |  |  |  |  | X | X | X |
|  | Graphing Inequalities |  |  |  |  |  |  | X | X | X |
| Perimeter | Perimeter |  |  |  | X | X | X | X | X | X |
|  | Perimeter of Complex Shapes |  |  |  |  |  |  |  |  | X |
| Area | Area of a Rectangle |  |  |  | X | X | X | X | X | X |
|  | Area of a Triangle |  |  |  |  | X | X | X | X | X |
|  | Area of a Circle |  |  |  |  | X | X | X | X | X |
|  | Area of Rectangles, Triangles and Circles |  |  |  |  | X | X | X | X | X |
|  | Area of Complex Shapes |  |  |  |  | X | X |  |  | X |
|  | Area of Parallelogram |  |  |  |  | X | X | X | X | X |



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|  | Surface Area - Rectangular Prism, Triangular Prisms |  |  |  |  |  |  | X | X | X |
|  | Surface Area - Cylinders |  |  |  |  |  |  | X | X | X |
| Surface Area | Surface Area - Cones \& Pyramids |  |  |  |  |  |  | X | X | X |
|  | Surface Area - Spheres |  |  |  |  |  |  | X | X | X |
|  | Surface Area of Right Solids |  |  |  |  |  |  | X | X | X |
|  | Volume - Rectangular Prisms, Triangular Prisms |  |  |  |  |  |  | X | X | X |
|  | Volume - Cylinders |  |  |  |  |  |  | X | X | X |
| Volume | Volume - Cones \& Pyramids |  |  |  |  |  |  | X | X | X |
|  | Volume - Spheres |  |  |  |  |  |  | X | X | X |
|  | Volume of Complex Shapes |  |  |  |  |  |  |  |  | X |
| Lines | Distinguishing between a Line and a Line Segment |  |  |  | X | X | X | X | X | X |
| Lines | Distinguishing Between Parallel and Perpendicular Lines |  |  |  |  | X | X | X | X | X |
|  | Complementary and Supplementary Angles |  |  |  |  |  |  | X | X | X |
| Angles | Vertical, Corresponding, Alternate Interior, Alternate Exterior Angles, Same-Side Interior Angles |  |  |  |  |  |  | X | X | X |
|  | Angles of Elevation \& Depression |  |  |  |  |  |  |  |  | X |
|  | Pythagorean Theorem |  |  |  |  |  |  | X | X | X |
|  | Finding the Missing Angle of a Triangle |  |  |  |  |  |  | X | X | X |
| Triangles | Identifying: Right, Acute, and Obtuse Triangles Isosceles |  |  |  |  |  |  | X | X | X |
|  | Identifying: Isoceles, Scalene, and Equilateral Triangles |  |  |  |  |  |  | X | X | X |
|  | Corresponding Parts of Similar Traingles |  |  |  |  |  |  |  |  | X |
| Coordinate Plane | Plotting Points on the Coordinate Plane | X | X | X | X | X | X | X | X | X |
| Coordinate Plane | Midpoint of a Line Segment on a Coordinate Plane |  |  |  |  |  |  |  | X | X |
|  |  |  |  |  |  |  |  |  |  |  |
|  | OVER 200 TOPICS AND MORE TO COME! |  |  |  |  |  |  |  |  |  |

