

## MATH LEVEL 3: NUMBER SENSE AND OPERATIONS

Adult learners will reason, problem solve, communicate,  
and make real life connections using number sense and operations.

<b>Benchmarks</b> On exit of this level, learner is able to:	<b>Applications</b> Examples of how/where learners will use this skill:	I do it well enough	I want to work on it	I don't need to work on this now
Understand and use number notation and place values to the 1,000,000.	<ul style="list-style-type: none"> <li>Relate number values when read or written in an article.</li> <li>Tell someone the number in a certain place in a routing number.</li> </ul>			
Add, subtract, multiply, and divide whole numbers with proficiency at this level	<ul style="list-style-type: none"> <li>Master addition, subtraction, multiplication, and division facts.</li> </ul>			
Find prime factorization of whole numbers.	<ul style="list-style-type: none"> <li>Understand that every whole number can be expressed as a product of prime numbers.</li> </ul>			
Add and subtract fractions using common denominators.	<ul style="list-style-type: none"> <li>Add quantities of fractional differences, such as <math>2/7 + 3/7</math>.</li> <li>Solve applied problems with fractions.</li> </ul>			
Add and subtract fractions using different denominators.	<ul style="list-style-type: none"> <li>Add quantities of fractional differences, such as <math>1/3 + 2/7</math>.</li> <li>Solve applied problems with fractions.</li> </ul>			
Understand fractions as division statements.	<ul style="list-style-type: none"> <li>Use pictures to represent simple fractions.</li> </ul>			
Multiply and divide fractions	<ul style="list-style-type: none"> <li>Proportionally increase fractional ingredients in a recipe.</li> <li>Divide a pizza or cake into needed pieces.</li> <li>Calculate needed yardage in clothing patterns.</li> <li>Solve applied problems with fractions.</li> </ul>			
Understand meaning of decimal, fractions, and percentages.	<ul style="list-style-type: none"> <li>Calculate amounts of sale items, savings, and price.</li> <li>Express sale prices using percentages, fraction, and decimals.</li> </ul>			

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Express, interpret, and use ratios	<ul style="list-style-type: none"><li>• Find equivalences.</li><li>• Write ratios in various forms, such as: 3 cups to 5 people, 3:5, 3/5.</li></ul>			
Multiply and divide by powers of ten.	<ul style="list-style-type: none"><li>• Use mental strategies in division by 10s 100s, and 1,000s.</li><li>• See patterns of use when multiplying whole number by powers of 10: 0.01, 0.1, 1, 10, 100, and 1,000.</li></ul>			
Estimate the answer to calculations involving addition, subtraction, or multiplication.	<ul style="list-style-type: none"><li>• Check the reasonableness of answers.</li><li>• Become familiar with common place-value errors in calculations.</li><li>• Use mental math strategies.</li></ul>			

Name: \_\_\_\_\_

Date: \_\_\_\_\_