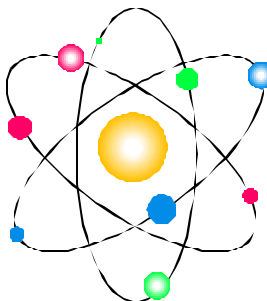


# PROJECT ATOMS



## NETWORK OPERATOR (CSCI) ESSENTIAL MATHEMATICS SKILLS

| VIDEO TAPE                                                                                                 |                                                                                                                                     |                                      |              |                                                                           |
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| SKILLS                                                                                                     | TEXT                                                                                                                                | FULL TITLE                           | ABBREVIATION | SOFTWARE TITLE                                                            |
| <b>A. (1) Whole Numbers and Variable Expressions</b>                                                       |                                                                                                                                     |                                      |              |                                                                           |
| (1.1) Introduction to whole numbers<br>order relation between whole numbers<br>Place value<br>Applications | PreAlgebra Text by<br>Aufmann/Barker/Lockwood<br>Chapter 1 section 1<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | #1 Place Value and<br>Reading Tables |              | Passkey Lessons<br>Whole Numbers<br><br>Place Value and<br>Reading Tables |

| VIDEO TAPE                                                                                                                                                                                      |                                                                                                                               |                                                                                 |                                               |                                                                                                                 |
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| SKILLS                                                                                                                                                                                          | TEXT                                                                                                                          | FULL TITLE                                                                      | ABBREVIATION                                  | SOFTWARE TITLE                                                                                                  |
| (1.2) Addition and Subtraction of whole numbers<br>Addition of whole numbers<br>Subtraction of whole numbers<br>Applications and formulas                                                       | PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 1 section 2<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | #1 Adding Whole Numbers And Perimeter<br><br>#1 Subtracting Whole Numbers       |                                               | Passkey Lessons<br><br>Whole Numbers<br><br>Adding Whole Numbers And Perimeter<br><br>Subtracting Whole Numbers |
| (1.3) Multiplication and Division of whole Numbers<br>Multiplication of whole numbers<br>Exponents<br>Division of whole numbers<br>Factors and prime factorization<br>Applications and formulas | PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 1 section 3<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | #2 Multiplying Whole Numbers And Area<br><br>#2 Dividing Whole Numbers          |                                               | Passkey Lessons<br>Whole Numbers<br><br>Multiplying Whole Numbers And Area<br><br>Dividing Whole Numbers        |
| (1.4) Rounding and Estimation<br>Rounding<br>Estimation<br>Applications                                                                                                                         | PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 1 Section 4<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | Approximation, Rounding, Estimation (MTH 107)<br><br>#1 Rounding And Estimating | Approximation, Rounding, Estimation (MTH 107) | Passkey Lessons<br>Decimals<br><br>Rounding And Estimating                                                      |

| VIDEO TAPE                             |                                                                                                                               |                                                                                             |                          |                                                                                                                                                           |
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| SKILLS                                 | TEXT                                                                                                                          | FULL TITLE                                                                                  | ABBREVIATION             | SOFTWARE TITLE                                                                                                                                            |
| (1.5) The Order of Operation Agreement | PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 1 section 5<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | The Order Of Operations Agreement - Whole Numbers Expressions<br><br>#4 Order Of Operations | Order of Oper & $ax+b=c$ | Algebra Mentor Lessons 59-67<br><br>The Order Of Operations Agreement<br><br>Passkey Lessons Order Of Operations<br><br>Exponents And Order Of Operations |

| <b>(3) Fractions</b>                                                                                                                                                    |                                                                                                                               |                                  |                                  |                                                                                                  |
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| (3.2) Introduction to fractions<br>Proper fractions, improper fractions, mixed numbers<br>Equivalent fractions<br>Order relations between two fractions<br>Applications | PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 3 section 2<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | Math: Fractions & Decimals (F11) | Math: Fractions & Decimals (F11) | Passkey Lessons Fractions<br><br>Algebra Mentor Lessons 158-160<br><br>Introduction to fractions |

| VIDEO TAPE                                                                                                                          |                                                                                                                               |                                                                                                                                                                                                                                                                       |                                                                                                   |                                                                                                                                                                                                              |
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| SKILLS                                                                                                                              | TEXT                                                                                                                          | FULL TITLE                                                                                                                                                                                                                                                            | ABBREVIATION                                                                                      | SOFTWARE TITLE                                                                                                                                                                                               |
| (3.3) Addition and subtraction of fractions<br>Addition of fractions<br>Subtraction of fractions<br>Applications and formulas       | PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 3 section 3<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | Addition and Subtraction of Signed Fractions<br>Addition and Subtraction of Mixed Numbers Math: Fractions & Decimals (F11)<br><br>#6 Adding And Subtracting Fractions With Least Common Denominators<br><br>Adding And Subtracting Fractions With Unlike Denominators | Addition & -MXD Frac,Exp<br><br>Addition & - of Sgnd Frac<br><br>Math: Fractions & Decimals (F11) | Passkey Lessons Fractions<br><br>Addition & Subtraction Of Fractions<br><br>Adding And Subtracting Fractions With Least Common Denominators<br><br>Adding And Subtracting Fractions With Unlike Denominators |
| (3.4) Multiplication and division of fractions<br>Multiplication of fractions<br>Division of fractions<br>Applications and formulas | PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 3 section 4<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | Math: Fractions & Decimals (F11)<br><br>#6 Multiplying And Dividing Fractions                                                                                                                                                                                         | Math: Fractions & Decimals (F11)                                                                  | Passkey Lessons Fractions<br><br>Multiplication & Division Of Fractions<br><br>Multiplying And Dividing Fractions                                                                                            |

| <b>(4) Decimals and Real Numbers</b>                                                                          |                                                                                                                               |                                                                                  |                                               |                                                          |
|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|
| (4.1) Introduction to decimals<br>Place value<br>Order Relations Between Decimals<br>Rounding<br>Applications | PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 4 section 1<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | Approximation, Rounding, Estimation (MTH 107)<br><br>#7 Introduction To Decimals | Approximation, Rounding, Estimation (MTH 107) | Passkey Lessons Decimals<br><br>Introduction To Decimals |

| VIDEO TAPE                                                                                                                                                  |                                                                                                                               |                                                                                                                                       |                                    |                                                                                                                                                            |
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| SKILLS                                                                                                                                                      | TEXT                                                                                                                          | FULL TITLE                                                                                                                            | ABBREVIATION                       | SOFTWARE TITLE                                                                                                                                             |
| (4.2) Addition and Subtraction of Decimals                                                                                                                  | PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 4 section 2<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | #8 Adding And Subtracting Decimals<br><br>MATH: Fractions & Decimals (F11)                                                            | MATH: Fractions & Decimals (F11)   | Passkey Lessons Decimals<br><br>Adding And Subtracting Decimals                                                                                            |
| (4.3) Multiplication and divisions of decimals<br>Multiplication of decimals<br>Division of decimals<br>Fractions and decimals<br>Applications and formulas | PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 4 section 3<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | #8 Multiplying Decimals And Circumference Of A Circle<br><br>Dividing Decimals<br><br>MATH: Fractions & Decimals (F11)                | MATH: Fractions & Decimals (F11)   | Passkey Lessons Decimals<br><br>Multiplication And Division Of Decimals<br><br>Multiplying Decimals And Circumference Of A Circle<br><br>Dividing Decimals |
| (4.4) Radical Expressions<br>Square roots of perfect squares<br>Square roots of whole numbers<br>Applications and formulas                                  | PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 4 section 4<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | Rational Exponents & Radicals (Tape #1)<br><br>Rational Exponents & Radicals (Tape #2)<br><br>#9 Square Roots and Pythagorean Theorem | Rational Exponents<br><br>Radicals | Algebra Mentor Lessons 225-227<br><br>Passkey Lessons Exponents and Square roots<br><br>Square Roots and Pythagorean Theorem                               |

| VIDEO TAPE                                                                                                          |      |                                                                                              |                          |                                                                                                                              |
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| SKILLS                                                                                                              | TEXT | FULL TITLE                                                                                   | ABBREVIATION             | SOFTWARE TITLE                                                                                                               |
| <b>(8) Percent</b>                                                                                                  |      |                                                                                              |                          |                                                                                                                              |
| (8.1) Percent<br>Percents as decimals or fractions<br>Fractions and decimals as percents                            |      | Converting<br>Percent/Fractions/<br>Decimals<br><br>#13 Percents, Decimals,<br>and Fractions | Converting<br>%/Frac/Dec | Percent<br><br>Passkey Lessons Percents<br><br>Percents, Decimals, and<br>Fractions                                          |
| (8.2) The basic percent equation<br>The base percent equation<br>Percent problems using proportions<br>Applications |      | The Basic Percent<br>Equation<br><br>#13 Percent Equations<br>and Problem Solving            | Converting<br>%/Frac/Dec | The Basic Percent<br>equation<br><br>Passkey Lessons Percents<br><br>Percent<br><br>Percent Equations and<br>Problem Solving |
| <b>D. (1) Arithmetic</b>                                                                                            |      |                                                                                              |                          |                                                                                                                              |
| (1.11) Arithmetic with calculators                                                                                  |      |                                                                                              |                          |                                                                                                                              |

|                                                                                                                                                   |                                                                                                                                     | VIDEO TAPE                  |              |                          |
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| SKILLS                                                                                                                                            | TEXT                                                                                                                                | FULL TITLE                  | ABBREVIATION | SOFTWARE TITLE           |
| <b>(2) Integers</b>                                                                                                                               |                                                                                                                                     |                             |              |                          |
| (2.1) Introduction to integers<br>Integers and the number line<br>Order relations between integers<br>Opposites<br>Absolute value<br>Applications | PreAlgebra Text by<br>Aufmann/Barker/Lockwood<br>Chapter 2 section 1<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | #3 Introduction to Integers |              | Introduction to Integers |

|                                                                                                                            |                                                                                                                                     | VIDEO TAPE                                                                           |                                     |                                                                                                            |
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| SKILLS                                                                                                                     | TEXT                                                                                                                                | FULL TITLE                                                                           | ABBREVIATION                        | SOFTWARE TITLE                                                                                             |
| (2.2) Addition and subtraction of integers<br>Addition of integers<br>Subtraction of integers<br>Applications and formulas | PreAlgebra Text by<br>Aufmann/Barker/Lockwood<br>Chapter 2 section 2<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | Adding and<br>Subtracting Integers<br><br>#3 Adding Integers<br>Subtracting Integers | Adding & -Int.<br>Ordr Oper         | Algebra Mentor<br>Lessons 2-31<br><br>Addition & Subtraction of<br>Integers<br><br>Passkey Lesson<br>M1311 |
| (2.3) Multiplication and Division of integers<br>Division of integers<br>Applications                                      | PreAlgebra Text by<br>Aufmann/Barker/Lockwood<br>Chapter 2 section 3<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | #3 Multiplying and<br>Dividing Integers                                              |                                     | Passkey Lesson<br>M1311<br><br>Multiplication & Division<br>of Integers                                    |
| (2.4) The order of operations<br>agreement                                                                                 | PreAlgebra Text by<br>Aufmann/Barker/Lockwood<br>Chapter 2 section 4<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | Order of Operations<br>Integers<br><br>#4 Order of Operations                        | Adding & -Int.<br>Ordr oper         | Algebra Mentor<br>Lessons 59-65<br><br>The Order of Operations<br>Agreement                                |
| <b>(4) Decimals and Real Numbers</b>                                                                                       |                                                                                                                                     |                                                                                      |                                     |                                                                                                            |
| (4.5) Real Numbers<br>Real numbers and the real number<br>line<br>Inequalities in one variable<br>Applications             | PreAlgebra Text by<br>Aufmann/Barker/Lockwood<br>Chapter 4 section 5<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | Naturals, Real<br>Numbers (MTH 106)                                                  | Naturals, Real<br>Numbers (MTH 106) | Passkey Lessons<br>Inequalities<br><br>Inequalities                                                        |

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| SKILLS                                                                                                                              | TEXT                                                                                                                          | FULL TITLE                                                                                                                                                                                 | ABBREVIATION                       | SOFTWARE TITLE                                                                                                                                |
| <b>(6) First Degree Equation</b>                                                                                                    |                                                                                                                               |                                                                                                                                                                                            |                                    |                                                                                                                                               |
| (6.1) Introduction to equations<br>Solutions of an equations<br>Equations of the form $x + a = b$<br>Equations of the form $ax = b$ |                                                                                                                               | Introduction to Solving Linear Equations-<br>Addition<br>prop of Equations-<br>Multiplication property of Equations<br><br>#5 Solving Linear Equations In One Variable And Problem Solving | Introduction to Lin Eq             | Algebra Mentor Lessons 197-209<br><br>Passkey Lessons Equations<br><br>Introduction to equations<br><br>Solving Equations And Problem Solving |
| <b>D. (1) Arithmetic</b>                                                                                                            |                                                                                                                               |                                                                                                                                                                                            |                                    |                                                                                                                                               |
| (1.9) Powers and Roots                                                                                                              | PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 4 section 4<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | Rational Exponents & Radicals (Tape #1)<br><br>Rational Exponents & Radicals (Tape #2)<br><br>#9 Square Roots and Pythagorean Theorem                                                      | Rational Exponents<br><br>Radicals | Algebra Mentor Lessons 225-227<br><br>Passkey Lessons Exponents and Square roots<br><br>Square Roots and Pythagorean Theorem                  |
| (1.10) Evaluating square roots                                                                                                      | PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 4 section 4<br><br>PreAlgebra by Martin/Gay<br><br><b>(VISIT MATH LAB)</b> | Rational Exponents & Radicals (Tape #1)<br><br>Rational Exponents & Radicals (Tape #2)<br><br>#9 Square Roots and Pythagorean Theorem                                                      | Rational Exponents<br><br>Radicals | Algebra Mentor Lessons 225-227<br><br>Passkey Lessons Exponents and Square roots<br><br>Square Roots and Pythagorean Theorem                  |

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| SKILLS                                                  | TEXT | FULL TITLE | ABBREVIATION | SOFTWARE TITLE              |
| <b>(2) Units of Measurement and Approximate Numbers</b> |      |            |              |                             |
| (2.1) Units of measurement: The Metric System           |      |            |              | Passkey Lessons Measurement |
| (2.2) Reduction and conversion of units                 |      |            |              | Passkey Lessons Measurement |
| (2.3) Approximate numbers and significant digits        |      |            |              |                             |
| (2.4) Arithmetic operations with approximate numbers    |      |            |              |                             |

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|----------------------------------------------|--|--|--|------------------------------|
| <b>(5) Simple Equations and Inequalities</b> |  |  |  |                              |
| (5.3) Simple Inequalities                    |  |  |  | Passkey Lessons Inequalities |
|                                              |  |  |  | Inequalities                 |
| (5.4) Application problems                   |  |  |  |                              |