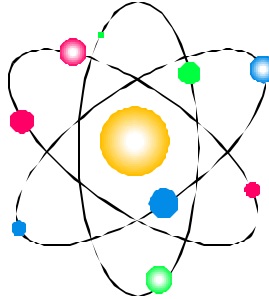


PROJECT ATOMS



Heating, Ventilation, Air Conditioning, Refrigeration (HART) ESSENTIAL MATHEMATICS SKILLS

		VIDEO TAPE		
SKILLS	TEXT	FULL TITLE	ABBREVIATION	SOFTWARE TITLE
A. (1) Whole numbers and Variable Expressions				
(1.1) Introduction to whole numbers order relation between whole numbers Place value Applications	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 1 section 1 PreAlgebra by Martin/Gay (VISIT MATH LAB)	#1 Place Value and Reading Tables		Passkey Lessons Whole Numbers Place Value and Reading Tables
(1.2) Addition and subtraction of whole numbers Addition of whole numbers Subtraction of whole numbers Applications and formulas	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 1 section 2 PreAlgebra by Martin/Gay (VISIT MATH LAB)	#1 Adding Whole Numbers And Perimeter #1 Subtracting Whole Numbers		Passkey Lessons Whole Numbers Adding Whole Numbers And Perimeter Subtracting Whole Numbers

SKILLS	TEXT	VIDEO TAPE		SOFTWARE TITLE
		FULL TITLE	ABBREVIATION	
(1.3) Multiplication and Division of whole Numbers Multiplication of whole numbers Exponents Division of whole numbers Factors and prime factorization Applications and formulas	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 1 section 3 PreAlgebra by Martin/Gay (VISIT MATH LAB)	#2 Dividing Whole Numbers		Passkey Lessons Whole Numbers Multiplying Whole Numbers And Area Dividing Whole Numbers
(1.4) Rounding and Estimation Rounding Estimation Applications	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 1 Section 4 PreAlgebra by Martin/Gay (VISIT MATH LAB)	Approximation, Rounding, Estimation (MTH 107) #1 Rounding And Estimating	Approximation, Rounding, Estimation (MTH 107)	Passkey Lessons Decimals Rounding And Estimating
(1.5) The Order of Operations Agreement	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 1 section 5 PreAlgebra by Martin/Gay (VISIT MATH LAB)	The Order Of Operations Agreement - Whole Numbers Expressions #4 Order Of Operations	Order of Oper & $ax+b=c$	Algebra Mentor Lessons 59-67 The Order Of Operations Agreement Passkey Lessons Order Of Operations Exponents And Order Of Operations

		VIDEO TAPE		
SKILLS	TEXT	FULL TITLE	ABBREVIATION	SOFTWARE TITLE
(3) Fractions				
(3.1) Least common multiple and greatest common factor Least common multiple (LCM) Greatest common factor (GCF) Applications	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 3 section 1 PreAlgebra by Martin/Gay (VISIT MATH LAB)			Algebra Mentor Lessons 157-160 Least Common Multiple & Greatest Common Factor Passkey Lessons Fractions
(3.2) Introduction to fractions Proper fractions, improper fractions, mixed numbers Equivalent fractions Order relations between two fractions Applications	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 3 section 2 PreAlgebra by Martin/Gay (VISIT MATH LAB)	Math: Fractions & Decimals (F11)	Math: Fractions & Decimals (F11)	Passkey Lessons Fractions Algebra Mentor Lessons 158-160 Introduction to fractions

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

		VIDEO TAPE		
SKILLS	TEXT	FULL TITLE	ABBREVIATION	SOFTWARE TITLE
(3.5) Exponents, complex fractions, and the order of operations Agreement Exponents Complex fractions The order of operations agreement	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 3 section 5 (VISIT MATH LAB)	Fractions, Exponents, Complex Fractions, and the Order of Operations and Agreement	Addition & -MXD #; Frac, Exp	Passkey Lessons Exponents/Square Roots Exponents, Fractions & Order of Operations
(4) Decimals and Real Numbers				
(4.1) Introduction to decimals Place value Order relations between decimals Rounding Applications	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 4 section 1 PreAlgebra by Martin/Gay (VISIT MATH LAB)	Approximation, Rounding, Estimation (MTH 107) #7 Introduction To Decimals	Approximation, Rounding, Estimation (MTH 107)	Passkey Lessons Decimals Introduction To Decimals
(6) First-Degree Equations				
(6.1) Introduction to equations Solutions of an equation Equations of the form $x+a=b$ Equations of the form $ax=b$		Introduction to Solving Linear Equations- Addition prop of Equations- Multiplication property of Equations #5 Solving Linear Equations In One Variable And Problem Solving	Introduction to Lin Eq	Algebra Mentor Lessons 197-209 Passkey Lessons Equations Introduction to equations Solving Equations And Problem Solving

SKILLS	TEXT	VIDEO TAPE		SOFTWARE TITLE
		FULL TITLE	ABBREVIATION	
(6.2) First-degree equations of the form $ax+b=c$ Equations of the form $ax+b=c$ Applications		Solving Linear Equations of the Form $ax+b=c$	Order of oper & $ax+b=c$	First Degree Equations of the form $ax+b=c$ Passkey Lessons Equations
(6.3) General first-degree equations Equations for the form $ax+b=cx+d$ Equations with parentheses Applications		Solving Linear Equations in One Variable The Equalizer	Solving Linear Eq - 1 Var. The Equalizer	Passkey Lessons Equations General First Degree Equations
(7) Ratio and Proportion				
(7.1) Ratios and rates Ratios and rates Dimensional analysis Applications		#11 Ratios		Ratio, Proportion, And Measurement
(7.2) Proportion Proportions Applications		#11 Proportions		Proportions
(8) Percent				
(8.1) Percent Percents as decimals or fractions Fractions and decimals as percents		Converting Percent/Fractions/Decimals #13 Percents, Decimals, and Fractions	Converting %/Frac/Dec	Percent Passkey Lessons Percents Percents, Decimals, and Fractions

		VIDEO TAPE		
SKILLS	TEXT	FULL TITLE	ABBREVIATION	SOFTWARE TITLE
(8.2) The basic percent equation The base percent equation Percent problems using proportions Applications		The Basic Percent Equation #13 Percent Equations and Problem Solving	Converting %/Frac/Dec	The Basic Percent equation Passkey Lessons Percents Percent Percent Equations and Problem Solving
(9) Geometry				
(9.1) Introduction to geometry Problems involving lines and angles Problems involving angles formed by intersecting lines Problems involving the angles of a triangle				Passkey Lessons Geometry Introduction to Geometry
(9.2) Plane geometric figures Perimeter of a plane geometric figure Area of a plane geometric figure	PreAlgebra by Martin/Gay	#1 Adding Whole Numbers and Perimeter #10 Area and Volume		Passkey Lessons Geometry Adding Whole Numbers and Perimeter Area and Volume
(9.3) Triangles The Pythagorean Theorem Similar triangles Congruent triangles	PreAlgebra by Martin/Gay	#9 Square Roots and Pythagorean Theorem #11 Problem Solving with Proportion and Similar Triangles		Passkey Lessons Geometry Square Roots and Pythagorean Theorem Problem Solving with Proportion and Similar Triangles

		VIDEO TAPE		
SKILLS	TEXT	FULL TITLE	ABBREVIATION	SOFTWARE TITLE
D. (1) Arithmetic				
(1.9) Powers and roots				
(1.10) Evaluation square roots				Algebra Mentor Lesson 225 - 227 Passkey Lessons Exponents/Square Roots
(1.11) Arithmetic with calculators				
(2) Units of Measurement and Approximate Numbers				
(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				

		VIDEO TAPE		
SKILLS	TEXT	FULL TITLE	ABBREVIATION	SOFTWARE TITLE
(3) Signed Numbers				
(3.1) Signed numbers	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 2 section 1 PreAlgebra by Martin/Gay (VISIT MATH LAB)	Order of Operations Integers #3 Introduction to Integers	ORDR OPER Adding & - Int	Passkey Lessons Order of Operations Introduction to Integers
(3.2) Addition and subtraction of signed numbers	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 2 section 2 PreAlgebra by Martin/Gay (VISIT MATH LAB)	Adding and Subtracting Integers #3 Adding Integers Subtracting Integers	Adding & -Int. Ordr Oper	Algebra Mentor Lessons 2-31 Addition & Subtraction of Integers Passkey Lesson M1311
(3.3) Multiplication of signed numbers	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 2 section 3 PreAlgebra by Martin/Gay (VISIT MATH LAB)	#3 Multiplying and Dividing Integers		Passkey Lesson M1311 Multiplication & Division of Integers
(3.4) Division of signed numbers	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 2 section 3 PreAlgebra by Martin/Gay (VISIT MATH LAB)	#3 Multiplying and Dividing Integers		Passkey Lesson M1311 Multiplication & Division of Integers

		VIDEO TAPE		
SKILLS	TEXT	FULL TITLE	ABBREVIATION	SOFTWARE TITLE
(5) Simple Equations and Inequalities				
(5.2) Simple formulas and literal equations				Algebra Mentor Lessons 210 - 213
(5.3) Simple Inequalities				Passkey Lessons Inequalities Inequalities
(5.4) Application problems		Translating Verbal Expressions into Variable Expressions Translating Sentences into Equations	Translating Verbal Exp Translating Verbal Exp	Passkey Lessons Word Problem
(7) Basic Algebraic Operations				
(7.1) Algebraic addition and subtraction		Simplifying Variable Expressions	Properties, Reals; Simp Exp	
(7.2) Multiplication and division of monomials				Algebra Mentor Lessons 107 - 109
(7.3) Multiplication of polynomials		Special Products	Special Products	Algebra Mentor lesson 110 - 124 Passkey Lessons Polynomials Multiplying Polynomials
(7.4) Division of Polynomials		Division of Polynomials	Division of Polynomials	Passkey Lessons Polynomials

		VIDEO TAPE		
SKILLS	TEXT	FULL TITLE	ABBREVIATION	SOFTWARE TITLE
E. (10) Exponents, Roots and Radicals				
(10.2) Scientific notation		Scientific Notation	Scientific Notation	Passkey Lessons Exponents
(10.3) roots of a number		Simplifying Radicals	Simplifying Radicals	Passkey Lessons Exponents/Square Roots Simplifying Radical Expressions
(13) Graphs				
(13.1) Functions		Functional Notation and Operatrions	Function Not & Lin Func	Passkey Lessons Graphing
(13.2) the rectangular coordinate system		Cartesian Coordinate System	Cartesian Coor & Rel & Func	Algebra Mentor Lessons 80 - 85 Graphing Linear Equations Passkey Lessons Graphing
(13.3) The graph of a function		The Intercepts	The Intercepts	Algebra Mentor Lessons 80 - 85 Graphing Linear Equations Passkey Lessons Graphing

		VIDEO TAPE		
SKILLS	TEXT	FULL TITLE	ABBREVIATION	SOFTWARE TITLE
(15) Additional Topics from Geometry				
(15.1) Angles				Passkey Lessons Geometry
(15.2) Properties of triangles, quadrilaterals, and the circle				Passkey Lessons Geometry

(16) Trigonometry of Right Triangles				
(16.1) The trigonometric ratios		The Sine Function Cosine & Tangent Functions	The Sine Function Cosine & Tangent Functions	
(16.2) Values of the trigonometric ratios				
(16.3) Right triangle applications		Solving Triangles		

(19) Radians and Trigonometric Curves				
(19.1) Radians		Radian Measure	Radian Measure	
(19.2) Applications of radian measure				

		VIDEO TAPE		
SKILLS	TEXT	FULL TITLE	ABBREVIATION	SOFTWARE TITLE
A. (4) Decimals and Real Numbers				
(4.2) Addition and Subtraction of Decimals Addition and subtraction of decimals Estimation Applications and formulas	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 4 section 2 PreAlgebra by Martin/Gay (VISIT MATH LAB)	Math: Fractions & Decimals (F11) #8 Adding And Subtracting Decimals	Math: Fractions & Decimals (F11)	Passkey Lessons Decimals Adding And Subtracting Decimals

SKILLS	TEXT	VIDEO TAPE		SOFTWARE TITLE
		FULL TITLE	ABBREVIATION	
(4.3) Multiplication and Division of Decimals Multiplication of decimals Division of decimals Fractions and decimals Applications and formulas	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 4 section 3 PreAlgebra by Martin/Gay (VISIT MATH LAB)	Math: Fractions & Decimals (F11) #8 Multiplying Decimals And Circumference Of A Circle Dividing Decimals	Math: Fractions & Decimals (F11)	Passkey Lessons Decimals Multiplication and Division of Decimals Multiplying Decimals And Circumference Of A Circle Dividing Decimals
(4.4) Radical Expressions Square roots of perfect squares Square roots of whole numbers Applications and formulas	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 4 section 4 (VISIT MATH LAB)			Passkey Lessons Exponents/Square Roots
(4.5) Real Numbers Real numbers and the real number line Inequalities in one variable Applications	PreAlgebra Text by Aufmann/Barker/Lockwood Chapter 4 section 5 PreAlgebra by Martin/Gay (VISIT MATH LAB)	Naturals, Real Numbers (MTH 106)	Naturals, Real Numbers (MTH 106)	Passkey Lessons Inequalities Inequalities

		VIDEO TAPE		
SKILLS	TEXT	FULL TITLE	ABBREVIATION	SOFTWARE TITLE
B. (2) Linear Equations and Inequalities in One Variable				
(2.1) Algebraic expressions and combining like terms		Introduction to Solving Linear Equations Addition Property of Equations Solving Linear Equations in One Variable	Introduction Solv Lin Eq	First Degree Equations of the form $ax+b=c$ General First Degree Equations Variable Expressions in Simplest Form Passkey Lessons Equations
(2.2) The additive property of equality		Introduction to Solving Linear Equations- Addition Prop of Equations	Introduction to Solv Lin Eq	Passkey Lessons Equations Introduction to Equations
(2.3) The multiplicative property of equality		Introduction to Solving Linear Equations- Multiplicative Prop of Equations Solving Linear Equations of the Form $ax+b=c$	Introduction to Solv Lin Eq Order of Oper & $ax+b=c$	Passkey Lessons Equations Introduction to Equations

		VIDEO TAPE		
SKILLS	TEXT	FULL TITLE	ABBREVIATION	SOFTWARE TITLE
(2.4) Combining properties to solve linear equations to solve linear equations		Solving Linear Equations In One Variable The Equalizer	Solving Linear Eq - 1 Var. The Equalizer	Passkey Lessons Equations First Degree Equations of the form $ax+b=c$ General First Degree Equations Combining Properties to Solve Linear Equations
(2.7) Applications of linear equations		Solving Word Problems With Linear Equations	Solving Wrđ Prob-Lin Eq	Passkey Lessons Word Problems Application of Linear Equations
(2.9) Linear inequalities				Passkey Lesson- Inequalities Linear Inequalities
(3) Exponents and Polynomials				
(3.1) Natural number exponents				Natural Number Exponents
(3.2) Integer exponents		Integer Exponents	Integer Exponents	Integer Exponents
(3.3) Adding and subtracting polynomials				

SKILLS	TEXT	VIDEO TAPE		SOFTWARE TITLE
		FULL TITLE	ABBREVIATION	
(3.4) Multiplying polynomials				Passkey Lessons Polynomials Multiplying Polynomials
(3.5) The FOIL method and special products of binomials		Special Products	Special Products	Passkey Lessons Polynomials The Foil Method & Special Products of Binomials
(3.6) Dividing polynomials		Division of Polynomials	Division of Polynomials	Passkey Lessons Polynomials

(4) Factoring Polynomials				
(4.1) The greatest common factor (GCF)		Factoring Polynomials- Greatest Common Factor	Factoring Poly-GCF, Group	Factoring Summary
(4.2) Factoring the difference of two squares and perfect square trinomials		Factoring Binomials- Difference of Squares (Sum and Difference of Cubes included)	Factoring Binomials	Passkey Lessons Polynomials Factoring the Diff. of Two Sq. and Perf. Square Trinomials
(4.3) Factoring trinomials with a leading coefficient of 1		Factoring Trinomials With Leading Coefficient of One	Factoring Tri W/LD Coef 1	Passkey Lessons Polynomials Factoring General Trinomials
(4.4) Factoring general trinomials		Factoring General Trinomials	Factoring Summary	Passkey Lessons Polynomials Factoring General Trinomials

		VIDEO TAPE		
SKILLS	TEXT	FULL TITLE	ABBREVIATION	SOFTWARE TITLE
(4.5) Factoring by grouping		Factoring Polynomials- Greatest Common Factor and Grouping	Factoring Poly - GCF, Group	Factoring by Grouping
(4.9) Applications of quadratic equations		Applications Using the Quadratric Formula	Applications Using Quad	Applications of Quadratic Equations Passkey Lessons Quadratic Equations
(5) Rational Expressions				
(5.1) Reducing lowest terms		Reducing Rational Expressions to Lowest Terms	Reducing Rat Exp- Low Tms	Algebra Mentor 161-168 Reducing to Lowest Terms Passkey Lessons Rational Expressions
(5.2) Multiplying and dividing rational expressions		Multiplication and Division of Rational Expressions	Mult & Div of Rational Expr	Algebra Mentor 169-171; 175-180 Multiplying and Dividing Rational Expressions Passkey Lessons Rational Expressions

		VIDEO TAPE		
SKILLS	TEXT	FULL TITLE	ABBREVIATION	SOFTWARE TITLE
(5.3) Addition and subtraction of rational expressions with common denominator		Adding and Subtracting Algebraic Fractions	Adding & Subt Alg Frac	Algebra Mentor 181-184 Passkey Lessons Rational Expressions
(5.4) Addition and subtraction of rational expressions with different denominators		Adding and Subtracting Algebraic Fractions	Adding & Subt Alg Frac	Algebra Mentor 185-196 Adding and Subtracting Rational Expression with Different Denominations Passkey Lessons Rational Expressions
(5.6) Fractional equations		Solving Fractional Equations	Solving Fractional Equa	Applications of Rational Equations Fractional Equations
(10) Exponents, Roots, and Radicals				
(10.1) Zero and negative exponents		Rational Exponents and Radicals	Rational Exponents	Integer Exponents Passkey Lessons Exponents
(10.4) Simplifying radicals		Simplifying Radicals	Simplifying Radicals	Simplifying Radical Expressions
(10.5) Basic operations with radicals		Operations With Radical Expressions	Operations W/ Radical Expr.	Operations with Radical Expressions More Operations with Radical Expressions