



PATHWAY **2** CAREERS

## P2C Math: Algebra II

Table of Contents & Pacing  
Tennessee



Total # of Days 126-212

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S	A2a-1.2	Isolating a Variable	Exploration	A2.A.CED.A.3, A2.A.REI.A.1, A2.A.SSE.A.1.a, A2.A.SSE.A.1.b	2, 3, 4	Multiple	1
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S	A2a-2.5	Writing Linear Equations	Exploration	A2.A.CED.A.2	4, 6, 7	Multiple	1
S	A2a-2.6	Applying Writing Linear Equations	Application	A2.A.CED.A.2, A2.F.IF.A.2	1, 2, 4	Civil Engineering Technicians	1-2
S	A2a-2.7	Parallel & Perpendicular Lines	Exploration	A2.A.CED.A.2, A2.F.IF.B.6.a	1, 6, 8	Multiple	1

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S	A2a-2.8 Applying Parallel & Perpendicular Lines	Application	A2.A.CED.A.2	1, 2, 5	Producers	1-2
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	A2a-3.2 Solving Linear Systems of Three Equations	Exploration	A2.A.CED.A.2, A2.A.REI.A.1, A2.A.REI.B.3, A2.F.IF.A.1	1, 4, 8	Multiple	1-2
	A2a-3.3 Applying Solving Linear Systems of Three Equations	Application	A2.A.CED.A.2, A2.A.REI.A.1, A2.A.REI.B.3, A2.F.IF.A.1	1, 2, 5	Information Security Analysts	1-2
	A2a-3.4 Using Systems of Linear Equations	Exploration	A2.A.CED.A.2, A2.A.REI.A.1, A2.A.REI.B.3, A2.F.IF.A.1	1, 4, 6	Multiple	1
	A2a-3.5 Systems of Two Linear Inequalities	Exploration	A2.A.CED.A.1, A2.A.CED.A.2, A2.A.REI.A.1, A2.A.REI.B.3, A2.F.IF.A.1	1, 4, 5	Multiple	1-2
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	A2a-4.3 Matrix Multiplication	Exploration	A2.A.CED.A.2, A2.N.M.A.2.c, A2.N.M.A.2.d	1, 4, 5	Multiple	1-2
	A2a-4.4 Applying Matrix Multiplication	Application	A2.A.CED.A.2, A2.N.M.A.2.c, A2.N.M.A.2.d	1, 2, 7	Bioinformatics Scientists	1-2
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P	A2a-4-P Vector & Matrix Quantities	Project (Information Technology)	A2.A.CED.A.2, A2.N.M.A.2.a, A2.N.M.A.2.c, A2.N.M.A.2.d	3, 5, 7, 8	Web Administrators	3-6
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	A2a-5.2 Graphing in Standard Form	Exploration	A2.A.SSE.A.1.a, A2.A.SSE.A.1.b, A2.F.BF.B.3	2, 6, 7, 8	Multiple	1-2
	A2a-5.3 Applying Graphing in Standard Form	Application	A2.F.BF.B.3	2, 4, 5	Tool and Die Makers	1-2
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<b>6. ABSOLUTE VALUE AND PIECEWISE FUNCTIONS</b>						<b>7-13</b>
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A2a-6.3	Applying Composite Functions	Application	A2.F.BF.A.1.a, A2.F.BF.A.1.b, A2.F.IF.B.6.b	2, 3, 5	Audio and Video Technicians	1-2
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A2a-7.2	Long Division, the Factor Theorem, and the Remainder Theorem	Exploration	A2.A.APR.A.1	4, 7, 8	Multiple	1-2
A2a-7.3	Synthetic Division	Exploration	A2.A.APR.A.1	7, 8	Multiple	1-2
A2a-7.4	Applying Polynomial Division	Application	A2.A.APR.A.1	5, 6, 7	Chemical Engineers	2
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A2a-7.6	Graphs of Polynomial Functions	Exploration	A2.F.IF.B.6.a, A2.F.IF.B.6.b	1, 3, 4, 5	Multiple	1-2
A2a-7.7	Applying Graphs of Polynomial Functions	Application	A2.F.IF.B.6.b	1, 4, 5	Electrical Engineers	2

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<b>8. RADICAL FUNCTIONS AND RATIONAL EXPONENTS</b>						<b>8-12</b>	
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	A2a-8.2	Properties of Rational Exponents	Exploration	A2.N.RN.A.1.a	1, 2, 6, 8	Multiple	1-2
	A2a-8.3	Composite Functions	Exploration	A2.A.CED.A.2, A2.F.BF.A.1.a, A2.F.BF.A.1.b, A2.F.BF.B.3, A2.F.IF.B.6.b	2, 6, 8	Multiple	1-2
	A2a-8.4	Applying Composite Functions	Application	A2.A.CED.A.2, A2.F.BF.A.1.a, A2.F.BF.A.1.b, A2.F.BF.B.3, A2.F.IF.B.6.b	2, 7, 8	Materials Engineer	1-2
	A2a-8.5	Graphing Radical Functions	Exploration	A2.A.CED.A.2, A2.F.IF.A.1, A2.F.IF.B.6.b	2, 7, 8	Multiple	1
	A2a-8.6	Solving Radical Equations	Exploration	A2.A.CED.A.2, A2.A.REI.A.2, A2.F.IF.B.6.b	1, 2	Multiple	1-2
	A2a-8.7	Applying Radical Functions	Application	A2.A.CED.A.2, A2.A.REI.A.2, A2.F.IF.A.1, A2.F.IF.B.6.b, A2.N.Q.A.1.a	1, 2, 4, 5, 7	Electrical and Electronics Drafters	2
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	A2a-9.2	Probability and Compound Probability	Exploration	A2.S.CP.A.1, A2.S.CP.B.2.a, A2.S.CP.B.2.b, A2.S.CP.C.4	1, 5, 7	Multiple	1-2
	A2a-9.3	Discrete Probability	Exploration	A2.S.CP.A.1	1, 2, 8	Multiple	1-2
	A2a-9.4	Applying Discrete Probability	Application	A2.S.CP.A.1	1, 4, 6	Heavy and Tractor-Trailer Truck Drivers	1-2
	A2a-9.5	The Binomial Theorem	Exploration	A2.A.SSE.A.1.a, A2.A.SSE.A.1.b	2, 6, 7	Multiple	1-2
E	A2a-9.6	The Traveling Salesperson Problem	Exploration	A2.A.SSE.A.1.a, A2.A.SSE.A.1.b, A2.S.CP.B.2.b	1, 2, 4, 7	Multiple	2-3
E	A2a-9.7	Optimal Solutions	Exploration	A2.S.IC.A.3	1, 2, 4	Multiple	2

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<b>10. DATA</b>						<b>5-8</b>	
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S	A2a-10.2	Measures of Variation	Exploration	A2.F.IF.A.2, A2.S.ID.A.1, A2.S.ID.A.2	5, 6, 7	Multiple	1
	A2a-10.3	The Normal Distribution	Exploration	A2.S.ID.A.2, A2.S.ID.A.3	1, 3, 5, 8	Multiple	1-2
	A2a-10.4	Applying the Normal Distribution	Application	A2.S.ID.A.2, A2.S.ID.A.3	1, 2, 4, 5, 6	Nurse Practitioners	2
	A2a-10.5	Randomness and Bias	Exploration	A2.S.CP.B.3, A2.S.IC.A.1, A2.S.IC.A.2	1, 3, 8	Multiple	1-2
	A2a-10.6	Applying Randomness and Bias	Application	A2.S.CP.B.3, A2.S.IC.A.2	1, 2, 4	Lodging Managers	1-2
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<b>1. RATIONAL FUNCTIONS</b>						<b>9-13</b>	
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	A2b-1.2	Adding and Subtracting Rational Expressions	Exploration	A2.A.APR.A.2	1, 4, 6	Multiple	1-2
	A2b-1.3	Solving Rational Equations	Exploration	A2.A.APR.A.2	1, 2, 5, 6	Multiple	1-2
	A2b-1.4	Applying Solving Rational Equations	Application	A2.A.APR.A.2	1, 2, 4	Respiratory Therapists	2
	A2b-1.5	Using Polynomial Division to Solve Rational Equations	Exploration	A2.A.CED.A.1	1, 2, 4, 6	Multiple	1-2
	A2b-1.6	Applying Using Polynomial Division to Solve Rational Equations	Application	A2.A.CED.A.1	1, 2, 3, 4	Budget Analysts	2
	A2b-1.7	Graphing Rational Functions	Exploration	A2.A.CED.A.2, A2.A.REI.A.1, A2.F.BF.B.3, A2.F.IF.A.1, A2.F.IF.B.6.a	1, 7, 8	Multiple	1-2

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<b>2. CONIC SECTIONS</b>					<b>8-14</b>	
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A2b-2.2	Circles	Exploration	P.A.C.A.2	1, 6, 7	Multiple	1-2
A2b-2.3	Ellipses	Exploration	P.A.C.A.3, P.A.C.A.4, P.A.C.A.5	1, 2, 7	Multiple	1-2
A2b-2.4	Hyperbolas	Exploration	P.A.C.A.3, P.A.C.A.4	1, 2, 7	Multiple	1-2
A2b-2.5	Applying Conic Sections	Application	A2.F.IF.B.6.b	1, 4, 7	Solar Photovoltaic Installers	2
A2b-2.6	Translating Conics	Exploration	A2.F.BF.B.3	2, 7, 8	Multiple	1-2
A2b-2.7	Applying Translating Conics	Application	A2.F.BF.B.3, A2.F.IF.B.6.a	2, 4, 7	Museum Technicians and Conservators	1-2
<b>3. COMPLEX NUMBERS</b>					<b>9-17</b>	
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A2b-3.2	Operations with Complex Numbers	Exploration	P.N.CN.A.1, P.N.CN.A.2, P.N.CN.A.3, P.N.CN.A.4, P.N.NE.A.4, P.N.NE.A.5	1, 3, 8	Multiple	1-2
A2b-3.3	Applying Operations with Complex Numbers	Application	P.N.CN.A.1, P.N.CN.A.2, P.N.CN.A.3, P.N.CN.A.4, P.N.NE.A.4, P.N.NE.A.5	2, 4, 6	Mathematicians	1-2
A2b-3.4	Completing the Square Using Complex Numbers	Exploration	P.F.IF.A.3, P.F.IF.A.4, P.N.CN.B.7, P.N.CN.B.8, P.N.CN.B.9	2, 6, 8	Multiple	1-2
A2b-3.5	Graphing in the Complex Plane	Exploration	P.G.PC.A.1, P.G.PC.A.2, P.G.PC.A.3, P.N.CN.A.1, P.N.CN.A.2, P.N.CN.A.3, P.N.CN.A.4, P.N.NE.A.4, P.N.NE.A.5	1, 2, 5	Multiple	1-2
A2b-3.6	Applying Moduli and Arguments	Application	A2.F.IF.A.3	1, 4, 6, 7	Electricians	1
A2b-3.7	Distance and Midpoint	Exploration	A2.F.IF.A.3	2, 8	Multiple	1-2
A2b-3.8	Using Notation with Complex Numbers	Exploration	P.N.CN.A.2, P.N.CN.A.3, P.N.CN.A.4, P.N.NE.A.4, P.N.NE.A.5	1, 6, 8	Multiple	1-2
A2b-3.9	Applying Using Notation with Complex Numbers	Application	P.N.CN.A.2, P.N.CN.A.3, P.N.CN.A.4, P.N.CN.A.5, P.N.CN.A.6, P.N.NE.A.4, P.N.NE.A.5	2, 4, 5	Electronics Engineers	1-2

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<b>4. EXPONENTIAL AND LOGARITHMIC FUNCTIONS</b>						<b>10-16</b>	
	A2b-4.1	Exponential Growth and Decay	Exploration	A2.F.BF.B.4.a, A2.F.BF.B.4.b, A2.F.BF.B.4.c, A2.F.LE.A.1.b, A2.S.ID.B.4	2, 4, 7	Multiple	1-2
	A2b-4.2	Applying Exponential Growth and Decay	Application	A2.F.LE.A.2	1, 2, 4, 7	Microbiologists	1-2
	A2b-4.3	The Number e	Exploration	A2.F.BF.B.4.a, A2.F.BF.B.4.b, A2.F.BF.B.4.c, A2.F.LE.A.2	2, 4, 7	Multiple	1-2
	A2b-4.4	Logarithms	Exploration	A2.F.BF.B.4.a, A2.F.BF.B.4.b, A2.F.BF.B.4.c, A2.F.LE.A.1.b, A2.F.LE.A.1.c	1, 2, 4, 6	Multiple	1-2
	A2b-4.5	Properties of Logarithmic Functions	Exploration	A2.F.BF.B.4.a, A2.F.BF.B.4.b, A2.F.BF.B.4.c, A2.F.IF.B.5.b, A2.F.LE.A.1.b, A2.F.LE.A.1.c, A2.N.RN.A.1.b, A2.N.RN.A.1.c	2, 4, 6, 8	Multiple	1-2
	A2b-4.6	Applying Properties of Logarithmic Functions	Application	A2.F.BF.B.4.a, A2.F.BF.B.4.b, A2.F.BF.B.4.c, A2.F.IF.B.5.b, A2.F.LE.A.1.b, A2.F.LE.A.1.c, A2.N.RN.A.1.b, A2.N.RN.A.1.c	2, 4, 6	Obstetricians	2
	A2b-4.7	Solving Exponential and Logarithmic Equations	Exploration	A2.A.REI.A.1, A2.F.BF.B.4.a, A2.F.BF.B.4.b, A2.F.BF.B.4.c	2, 4, 6	Multiple	1-2
	A2b-4.8	Applying Solving Exponential and Logarithmic Equations	Application	A2.A.REI.A.1, A2.F.BF.B.4.a, A2.F.BF.B.4.b, A2.F.BF.B.4.c, A2.F.LE.A.1.a, A2.F.LE.A.1.b	1, 2, 4, 6	Environmental Scientists and Specialists, Including Health	2
P	A2b-4-P	Building Functions	Project (Information Technology)	A2.F.BF.A.1.b, A2.F.BF.B.4.a, A2.F.BF.B.4.b, A2.F.BF.B.4.c	1, 2, 4, 6	Software Quality Assurance Analysts and Testers	3-6
<b>5. TRIGONOMETRY</b>						<b>8-15</b>	
S	A2b-5.1	Sine, Cosine, and Tangent in Right Triangles	Exploration	G.N.Q.A.1.c, G.SRT.C.4.a, G.SRT.C.4.b, G.SRT.C.5.a	2, 4, 6, 7	Multiple	1
	A2b-5.2	Inverse Sine, Cosine, and Tangent in Right Triangles	Exploration	G.N.Q.A.1.c, G.SRT.C.4.a, G.SRT.C.4.b, G.SRT.C.5.a	2, 4, 6, 7	Multiple	1

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S	A2b-5.3	The Law of Sines and the Law of Cosines	Exploration	G.N.Q.A.1.c, G.SRT.C.5.c	1, 6, 7, 8	Multiple	1-2
	A2b-5.4	Solving Triangles	Exploration	G.N.Q.A.1.c, G.SRT.C.5.c	1, 2, 4, 5, 6	Multiple	1-2
	A2b-5.5	Applying Solving Triangles	Application	G.N.Q.A.1.c, G.SRT.C.4.a, G.SRT.C.5.a	2, 4, 5	Machinists	1-2
	A2b-5.6	More Applying Solving Triangles	Application	G.N.Q.A.1.c, G.SRT.C.4.a, G.SRT.C.5.a	1, 3, 5	Welders, Cutters, Solderers, and Brazers	1-2
	A2b-5.7	Radians	Exploration	A2.N.Q.A.1.b	2, 6, 8	Multiple	1-2
	A2b-5.8	The Unit Circle	Exploration	G.N.Q.A.1.c	4, 5, 6, 8	Multiple	1-2
	A2b-5.9	Using the Unit Circle	Exploration	G.N.Q.A.1.c, G.SRT.C.4.b	4, 5, 7	Multiple	1-2
	A2b-5.10	Applying the Unit Circle	Application	G.N.Q.A.1.c	1, 2, 5	Web and Digital Interface Designers	1-2
<b>6. VECTORS</b>						<b>6-11</b>	
	A2b-6.1	Magnitude and Direction of Vectors	Exploration	P.N.VM.A.1, P.N.VM.A.2, P.N.VM.A.3	1, 3, 6, 7	Multiple	1
	A2b-6.2	Applying Magnitude and Direction of Vectors	Application	P.N.VM.A.1, P.N.VM.A.2, P.N.VM.A.3, P.N.VM.C.9	1, 4, 5	Traffic Technicians	1-2
	A2b-6.3	Vector Components	Exploration	P.N.VM.A.1, P.N.VM.A.2, P.N.VM.A.3, P.N.VM.C.9	4, 6, 7	Multiple	1-2
	A2b-6.4	Operations with Vectors	Exploration	P.N.VM.A.1, P.N.VM.A.2, P.N.VM.A.3, P.N.VM.C.9	1, 4, 5	Multiple	1-2
	A2b-6.5	Scalars	Exploration	P.N.VM.A.1, P.N.VM.A.2, P.N.VM.A.3	2, 6, 7	Multiple	1-2
	A2b-6.6	Applying Scalars	Application	P.N.VM.A.1, P.N.VM.A.2, P.N.VM.A.3, P.N.VM.C.9	2, 4, 6	Logisticians	1-2
<b>7. TRIG IDENTITIES AND TRIG EQUATIONS</b>						<b>7-12</b>	
	A2b-7.1	Intro to Trigonometric Identities	Exploration	P.G.AT.A.6, P.G.TI.A.1, P.G.TI.A.2	1, 2, 8	Multiple	1-2
	A2b-7.2	Sum and Difference Identities	Exploration	P.F.TA.A.3, P.F.TF.A.1, P.F.TF.A.2, P.G.AT.A.3, P.G.AT.A.4, P.G.AT.A.6, P.G.TI.A.1, P.G.TI.A.2	1, 2, 8	Multiple	1-2
	A2b-7.3	Angle Identities	Exploration	P.F.TA.A.3, P.F.TF.A.1, P.F.TF.A.2, P.G.AT.A.3, P.G.AT.A.4	1, 2, 4, 6	Multiple	1-2

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	A2b-7.4	Proof of the Identities	Exploration	P.F.TA.A.3, P.G.AT.A.6, P.G.TI.A.1, P.G.TI.A.2	3, 6, 8	Multiple	1-2
	A2b-7.5	Trigonometric Equations	Exploration	P.A.PE.A.1, P.A.PE.A.2, P.A.REI.A.4, P.A.REI.A.5, P.F.BF.A.1, P.F.IF.A.2	6, 8	Multiple	1-2
	A2b-7.6	Applying Trigonometric Equations	Application	P.A.PE.A.1, P.A.PE.A.2, P.A.REI.A.4, P.A.REI.A.5, P.F.BF.A.1, P.F.GT.A.1, P.F.GT.A.2, P.F.GT.A.3, P.F.GT.A.4, P.F.GT.A.5, P.F.GT.A.6, P.F.GT.A.7, P.F.TF.A.5	1, 2, 5	Diagnostic Medical Sonographers	2
<b>8. SERIES AND SEQUENCES</b>						<b>6-9</b>	
	A2b-8.1	Defining Series and Sequences	Exploration	A2.A.CED.A.2	1, 2, 3, 6, 8	Multiple	1
	A2b-8.2	Arithmetic Series and Sequences	Exploration	A2.A.CED.A.2, A2.F.BF.A.2	1, 2, 3, 5, 7	Multiple	1
	A2b-8.3	Applying Arithmetic Series and Sequences	Application	A2.A.CED.A.2, A2.F.BF.A.2, A2.N.Q.A.1.a	1, 7, 8	Library Technicians	1-2
	A2b-8.4	Geometric Series and Sequences	Exploration	A2.F.BF.A.2	1, 2, 4, 7	Multiple	1
	A2b-8.5	Applying Geometric Series and Sequences	Application	A2.F.BF.A.2, A2.N.Q.A.1.a	3, 7, 8	Agricultural Technicians	1-2
	A2b-8.6	Infinite Geometric Series	Exploration	A2.A.CED.A.2, A2.F.BF.A.2	1, 2, 3, 5, 7	Multiple	1-2
<b>EXTENSION OPPORTUNITIES:</b>						<b>17-34</b>	
<b>9. BINARY AND HEXADECIMAL NUMBERS</b>						<b>4-8</b>	
E	A2b-9.1	Binary Codes	Exploration	NCTM PS: Communication, Connections	1, 2, 4, 8	Multiple	1-2
E	A2b-9.2	Binary Numbers	Exploration	NCTM PS: Connections, Representation	1, 2, 4, 8	Multiple	1-2
E	A2b-9.3	Bits, Bytes, and Hexadecimal Numbers	Exploration	NCTM PS: Connections, Representation	1, 2, 4, 8	Multiple	1-2
E	A2b-9.4	Applying Bits, Bytes, and Hexadecimal Numbers	Application	NCTM PS: Connections, Representation	1, 2, 4, 8	Data Administrators	1-2

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<b>10. TOPOLOGY</b>						<b>5-10</b>	
E	A2b-10.1	Topology and Topological Equivalence	Exploration	NCTM PS: Reasoning and Proof, Communication	2, 4, 7	Multiple	1-2
E	A2b-10.2	Mobius Strips	Exploration	NCTM PS: Connections, Representation	7, 8	Multiple	1-2
E	A2b-10.3	Properties of a Torus	Exploration	NCTM PS: Reasoning and Proof, Communication	7, 8	Multiple	1-2
E	A2b-10.4	Topological Properties	Exploration	NCTM PS: Communication, Connections, Representation	2, 7, 8	Multiple	1-2
E	A2b-10.5	Applying Topological Properties	Application	NCTM PS: Communication, Connections, Representation	3, 7, 8	Industrial Machinery Mechanics	1-2
<b>11. LOGIC</b>						<b>8-16</b>	
E	A2b-11.1	Critical Thinking	Exploration	NCTM PS: Problem Solving, Reasoning and Proof	1, 2, 3, 7, 8	Multiple	1-2
E	A2b-11.2	An Introduction to Election Theory	Application	A2.S.IC.A.2, NCTM PS: Problem Solving, Reasoning and Proof	3, 4, 6, 7	Public Relations Specialists	1-2
E	A2b-11.3	Applying Critical Thinking	Application	NCTM PS: Problem Solving, Reasoning and Proof	1, 3, 8	Educational, Guidance and Career Counselors and Advisors	1-2
E	A2b-11.4	Sudoku and the Art of Deduction	Exploration	NCTM PS: Problem Solving, Connections	1, 3, 7, 8	Multiple	1-2
E	A2b-11.5	Logic Puzzles-Applying Deduction	Exploration	NCTM PS: Problem Solving, Reasoning and Proof	1, 3, 7, 8	Multiple	1-2
E	A2b-11.6	Cryptography	Exploration	NCTM PS: Problem Solving, Representation	1, 5, 7, 8	Multiple	1-2
E	A2b-11.7	Applying Cryptography	Application	NCTM PS: Problem Solving, Representation	2, 7, 8	Natural Sciences Managers	1-2
E	A2b-11.8	RSA Encryption	Exploration	NCTM PS: Problem Solving, Representation	2, 4, 7, 8	Multiple	1-2

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