PATHWAY 2 CAREERS

P2C Math: Pre-Algebra

Table of Contents & Pacing
Tennessee

Total # of Days 111-182

	Title	Type	Standard(s)	Mathematical Practices	Career(s)	Number of Days
1. Transformational Geometry						**13-21**
P-1.1	Translations	Exploration	8.G.A.1.a, 8.G.A.1.b, 8.G.A.1.c	1, 6, 7	Multiple	1
P-1.2	Apply Translations	Application	8.G.A.1.a, 8.G.A.1.b, 8.G.A.1.c	1, 5, 8	Computer Numerically Controlled Tool Programmers	1-2
P-1.3	Reflections	Exploration	8.G.A.1.a, 8.G.A.1.b, 8.G.A.1.c	4, 6, 7	Multiple	1
P-1.4	Apply Reflections	Application	8.G.A.1.a, 8.G.A.1.b, 8.G.A.1.c	4, 5, 7	Automotive Engineers	1-2
P-1.5	Rotations	Exploration	8.G.A.1.a, 8.G.A.1.b, 8.G.A.1.c	2, 3, 7	Multiple	1
P-1.6	Apply Rotations	Application	8.G.A.1.a, 8.G.A.1.b, 8.G.A.1.c	1, 4, 5, 7	Aerospace Engineering and Operations Technologists and Technicians	1-2
P-1.7	Investigate Symmetry	Application	8.G.A.1.a, 8.G.A.1.b, 8.G.A.1.c	1, 2, 4	Carpenters	1-2
P-1.8	Congruent Figures	Exploration	8.G.A.1.a, 8.G.A.1.b, 8.G.A.1.c	1, 2, 7	Multiple	1
P-1.9	Use Rigid Motions to Show Congruent Figures	Application	8.G.A.1.a, 8.G.A.1.b, 8.G.A.1.c	4, 5, 7	Special Effects Artists and Animators	1-2
P-1.10	Dilations	Exploration	8.G.A.1.d	2, 3, 7	Multiple	1
P-1.11	Apply Dilations	Application	8.G.A.1.d	1, 2, 4	Interior Designers	1-2
P-1.12	Similar Figures	Exploration	8.G.A.1.a, 8.G.A.1.b, 8.G.A.1.c, 8.G.A.1.d	1, 5, 7	Multiple	1-2
P-1.13	Perimeters and Areas of Similar Figures	Exploration	8.G.A.1.a, 8.G.A.1.b, 8.G.A.1.c	1, 7, 8	Multiple	1-2
2. Equations and Inequalities						**14-23**
P-2.1	Operations with Rational Numbers	Exploration	7.NS.A.1.c, 7.NS.A.2.c	1, 6, 7	Multiple	1-2
P-2.2	Simplify Expressions	Exploration	7.EE.A.2	1, 2, 7	Multiple	1-2
P-2.3	Variables and Equations	Application	8.EE.C.7.a, 8.EE.C.7.b	1, 4, 7	Facilities Managers	1-2

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P2C PATHWAY 2 CAREERS

	Title	Type	Standard(s)	Mathematical Practices	Career(s)	Number of Days
P-2.4	Solve One-Step Equations	Exploration	8.EE.C.7.a, 8.EE.C.7.b	1, 2, 7	Multiple	1
P-2.5	Apply Solving One-Step Equations	Application	8.EE.C.7.a, 8.EE.C.7.b	1, 2, 3	Cargo and Freight Agents	1-2
P-2.6	Solve Two-Step Equations	Exploration	8.EE.C.7.a, 8.EE.C.7.b	1, 2, 7	Multiple	1
P-2.7	Apply Solving Two-Step Equations	Application	8.EE.C.7.a, 8.EE.C.7.b	1, 2, 4	Loan Officers	1-2
P-2.8	Solve Multi-Step Equations	Exploration	8.EE.C.7.a, 8.EE.C.7.b	1, 2, 3	Multiple	1
P-2.9	Solve Equations with Variables on Both Sides	Exploration	8.EE.C.7.a, 8.EE.C.7.b	2, 4, 7	Multiple	1-2
P-2.10	Solve Break-Even Problems	Application	8.EE.C.7.a, 8.EE.C.7.b	1, 2, 7	Fundraising Managers	1-2
P-2.11	Rewrite Formulas	Application	8.EE.C.7.a, 8.EE.C.7.b	1, 2, 7	Registered Nurses	1-2
P-2.12	Solve One-Step Inequalities	Exploration	8.EE.C.7.a, 8.EE.C.7.b	1, 2, 7	Multiple	1
P-2.13	Solve Two-Step Inequalities	Exploration	8.EE.C.7.a, 8.EE.C.7.b	1, 2, 7	Multiple	1
P-2.14	Apply Solving Inequalities	Application	8.EE.C.7.a, 8.EE.C.7.b	1, 2, 7	Water Resource Specialists	1-2
3. ANGLE RELATIONSHIPS						**6-11**
P-3.1	Parallel Lines and Transversals	Exploration	8.G.A.2	1, 2, 5	Multiple	1-2
P-3.2	Apply Properties of Parallel Lines	Application	8.G.A.2	1, 2, 7	Structural Iron and Steel Workers	1-2
P-3.3	Angle Relationships in Triangles	Exploration	8.G.A.2	2, 7, 8	Multiple	1-2
P-3.4	Apply Angle Relationships in Triangles	Application	8.G.A.2	1, 2, 7	Robotics Engineers	1-2
P-3.5	Angle-Angle Similarity	Exploration	8.G.A.2	2, 3, 8	Multiple	1
P-3.6	Apply Similar Triangles	Application	8.G.A.2	1, 3, 4	Firefighters	1-2
P P-3-P	Geometry	Project (Information Technology)	8.G.A.1.a, 8.G.A.1.b, 8.G.A.1.c, 8.G.A.2	1, 2, 6, 7	Web and Digital Interface Designers	3-6

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	Title	Type	Standard(s)	Mathematical Practices	Career(s)	Number of Days
4. PROPORTIONAL RELATIONSHIPS						**11–19**
P-4.1	Write and Solve Proportions	Exploration	8.F.B.4	1, 2, 4	Multiple	1
P-4.2	Apply Writing and Solving Proportions	Application	8.F.B.4	1, 2, 4	Compliance Officers	1–2
P-4.3	Slope of a Line	Exploration	8.EE.B.6	1, 2, 4	Multiple	1–2
P-4.4	Use the Slope of a Line	Application	8.EE.B.6	1, 2, 4	Surveyors	1–2
P-4.5	Write Equations for Proportional Relationships	Exploration	8.EE.B.6, 8.F.B.4	1, 2, 4, 7	Multiple	1
P-4.6	Apply Equations for Proportional Relationships	Application	8.EE.B.6, 8.F.B.4	2, 4, 6	Food Scientists and Technologists	1–2
P-4.7	Solve Percent Problems	Application	8.EE.B.6, 8.F.B.4	2, 4, 6	Sales Representatives, Wholesale and Manufacturing	1–2
P-4.8	Graph Proportional Relationships	Exploration	8.EE.B.5, 8.F.B.5	4, 7, 8	Multiple	1–2
P-4.9	Apply Graphs of Proportional Relationships	Application	8.EE.B.5, 8.F.B.5	4, 7, 8	Manufacturing Engineers	1–2
P-4.10	Compare Proportional Relationships	Exploration	8.EE.B.5, 8.F.A.2	2, 7, 8	Multiple	1
P-4.11	Apply Comparisons of Proportional Relationships	Application	8.EE.B.5, 8.F.A.2	1, 4, 8	Biological Science Teachers, Postsecondary	1–2
5. FUNCTIONS						**14–21**
P-5.1	Relations and Functions	Exploration	8.F.A.1	1, 2, 3	Multiple	1
P-5.2	Representations of Functions	Exploration	8.EE.B.5, 8.F.A.1, 8.F.A.3, 8.F.B.5	1, 2, 4	Multiple	1–2
P-5.3	Linear Equations in Two Variables	Exploration	8.EE.B.5, 8.EE.B.6, 8.F.A.1, 8.F.A.3, 8.F.B.4	2, 3, 4	Multiple	1
P-5.4	Apply Linear Equations in Two Variables	Application	8.EE.B.5, 8.EE.B.6, 8.F.A.1, 8.F.A.3, 8.F.B.4	3, 4, 6	Dental Hygienists	1–2
P-5.5	Interpret Rate of Change and Initial Value	Exploration	8.EE.B.5, 8.EE.B.6, 8.F.B.4, 8.SP.A.3	1, 2, 4	Multiple	1

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		Title	Type	Standard(s)	Mathematical Practices	Career(s)	Number of Days
	P-5.6	Apply Rate of Change and Initial Value	Application	8.EE.B.5, 8.EE.B.6, 8.F.B.4, 8.SP.A.3	1, 2, 4	Soil and Plant Scientists	1-2
	P-5.7	Write Equations for Linear Functions	Exploration	8.EE.B.6, 8.F.A.3, 8.F.B.4	1, 2, 4	Multiple	1
	P-5.8	Apply Equations Written for Linear Functions	Application	8.EE.B.6, 8.F.A.3, 8.F.B.4, 8.SP.A.3	1, 2, 4	Commercial Pilots	1-2
	P-5.9	Identify Parallel and Perpendicular Lines	Application	8.EE.B.6, 8.F.B.4	1, 2, 4	Civil Engineers	1-2
	P-5.10	Graph Linear Equations in Two Variables	Exploration	8.EE.B.5, 8.F.A.1, 8.F.B.5	4, 5, 7	Multiple	1
	P-5.11	Interpret Intercepts of Graphs of Linear Equations	Application	8.F.A.1, 8.F.B.4	3, 4, 7	Athletic Trainers	1-2
	P-5.12	Compare Functions	Exploration	8.EE.B.5, 8.F.A.1, 8.F.A.2, 8.F.B.5, 8.SP.A.3	2, 4, 7	Multiple	1
	P-5.13	Nonlinear Functions	Exploration	8.F.A.1, 8.F.A.3, 8.F.B.5	1, 2, 4, 7	Multiple	1
	P-5.14	Apply Nonlinear Functions	Application	8.F.A.1, 8.F.A.3, 8.F.B.5	1, 4, 6	Food Service Managers	1-2
P	P-5-P	Functions	Project (Information Technology)	8.EE.B.5, 8.EE.B.6, 8.F.B.4, 8.SP.A.3	2, 4, 7	Information Technology Project Managers	3-6
6. Systems of Linear Equations							**10-17**
	P-6.1	Solve Systems of Linear Equations by Graphing	Exploration	8.EE.C.8.a, 8.EE.C.8.b, 8.EE.C.9	1, 2, 4	Multiple	1
	P-6.2	Apply Solving Linear Systems by Graphing	Application	8.EE.C.8.a, 8.EE.C.8.b, 8.EE.C.9	1, 2, 4	Business Operations Specialists	1-2
	P-6.3	Solve Systems of Linear Equations by Substitution	Exploration	8.EE.C.8.b, 8.EE.C.9	1, 2, 4	Multiple	1-2
	P-6.4	Apply Solving Linear Systems by Substitution	Application	8.EE.C.8.b, 8.EE.C.9	1, 2, 4	Credit Counselors	1-2
	P-6.5	Solve Systems of Linear Equations by Adding or Subtracting	Exploration	8.EE.C.8.b, 8.EE.C.9	1, 2, 7	Multiple	1
	P-6.6	Solve Systems of Linear Equations by Multiplying First	Exploration	8.EE.C.8.b, 8.EE.C.9	1, 2, 7	Multiple	1

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		Title	Type	Standard(s)	Mathematical Practices	Career(s)	Number of Days
	P-6.7	Apply Solving Linear Systems by Elimination	Application	8.EE.C.8.b, 8.EE.C.9	1, 2, 4	Personal Financial Advisors	1-2
	P-6.8	Solve Manufacturing Tolerance Problems	Application	8.EE.C.8.b, 8.EE.C.9	1, 4, 7	Ophthalmic Laboratory Technicians	1-2
	P-6.9	Solve Mixture Problems	Application	8.EE.C.8.b, 8.EE.C.9	2, 4, 5	Chemists	1-2
	P-6.10	Solve Special Types of Systems of Linear Equations	Exploration	8.EE.C.8.a, 8.EE.C.8.b, 8.EE.C.9	1, 2, 7	Multiple	1-2
P	P-6-P	Expressions and Equations	Project (Information Technology)	8.EE.C.8.a, 8.EE.C.8.b, 8.EE.C.9	3, 6, 7, 8	Information Security Analysts	3-6
7. STATISTICS AND PROBABILITY							**11-17**
	P-7.1	Scatter Plots	Exploration	8.SP.A.1, 8.SP.A.2, 8.SP.A.3	3, 4, 7	Multiple	1
	P-7.2	Apply Scatter Plots	Application	8.SP.A.1, 8.SP.A.2, 8.SP.A.3	3, 4, 7	Medical Scientists, except Epidemiologists	1-2
	P-7.3	Interpret Trend Lines	Exploration	8.SP.A.1, 8.SP.A.2, 8.SP.A.3	1, 2, 7	Multiple	1-2
	P-7.4	Draw and Use Trend Lines	Exploration	8.SP.A.1, 8.SP.A.2, 8.SP.A.3	1, 2, 4, 5	Multiple	1
	P-7.5	Apply Trend Lines	Application	8.SP.A.1, 8.SP.A.2, 8.SP.A.3	4, 5, 6	Paralegals and Legal Assistants	1-2
	P-7.6	Display Data from Two-Way Tables	Application	8.SP.A.3	3, 5, 6	Data Scientists	1-2
	P-7.7	Make Two-Way Frequency Tables	Exploration	8.SP.A.3	1, 2, 4	Multiple	1
	P-7.8	Interpret Two-Way Frequency Tables	Exploration	8.SP.A.3, 8.SP.B.4.a, 8.SP.B.4.b	1, 2, 4	Multiple	1
	P-7.9	Apply Two-Way Frequency Tables	Application	8.SP.A.3	1, 2, 3	Health Education Specialists	1-2
	P-7.10	Two-Way Relative Frequency Tables	Exploration	8.SP.A.3	1, 2, 4	Multiple	1
	P-7.11	Apply Two-Way Relative Frequency Tables	Application	8.SP.A.3	1, 2, 4	Operations Research Analysts	1-2
P	P-7-P	Statistics and Probability	Project (Information Technology)	8.SP.A.1, 8.SP.A.2, 8.SP.A.3, 8.SP.B.4.a, 8.SP.B.4.b	3, 4, 5	Computer User Support Specialists	3-6

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8. Exponents and Scientific Notation						**12–21**
P-8.1	Exponents	Exploration	8.EE.A.1	2, 4, 7	Multiple	1
P-8.2	Multiplication Properties of Exponents	Exploration	8.EE.A.1	1, 2, 4	Multiple	1–2
P-8.3	Division Properties of Exponents	Exploration	8.EE.A.1	1, 6, 7	Multiple	1–2
P-8.4	Zero and Negative Exponents	Exploration	8.EE.A.1	1, 6, 7	Multiple	1–2
P-8.5	Apply Properties of Exponents in Software Development	Application	8.EE.A.1	6, 7, 8	Software Developers	1–2
P-8.6	Apply Properties of Exponents Using Orders of Magnitude	Application	8.EE.A.1	1, 2, 7	Atmospheric, Earth, Marine and Space Sciences Teachers, Postsecondary	1–2
P-8.7	Apply Properties of Exponents in Ecology	Application	8.EE.A.1	2, 4, 6, 8	Industrial Ecologists	1–2
P-8.8	Scientific Notation	Exploration	8.EE.A.3, 8.EE.A.4	1, 4, 6	Multiple	1
P-8.9	Compute with Scientific Notation	Exploration	8.EE.A.3, 8.EE.A.4	2, 5, 7	Multiple	1
P-8.10	Apply Scientific Notation in Earth Science	Application	8.EE.A.3, 8.EE.A.4	2, 6, 7	Geoscientists	1–2
P-8.11	Apply Scientific Notation in Forensic Science	Application	8.EE.A.3, 8.EE.A.4	1, 2, 4	Forensic Science Technicians	1–2
P-8.12	Estimating Quantities	Exploration	8.EE.A.3, 8.EE.A.4	1, 4, 6	Multiple	1–2
9. Real Numbers and the Pythagorean Theorem						**10–16**
P-9.1	Find Square Roots	Exploration	8.EE.A.2	3, 7, 8	Multiple	1
P-9.2	Apply Finding Square Roots	Application	8.EE.A.2	1, 4, 6	Landscape Architects	1–2
P-9.3	Find Cube Roots	Exploration	8.EE.A.2	1, 6, 8	Multiple	1
P-9.4	Rational Numbers	Exploration	8.NS.A.1	1, 2, 4	Multiple	1
P-9.5	Irrational Numbers	Exploration	8.EE.A.2, 8.NS.A.1, 8.NS.A.2	1, 2, 4	Multiple	1

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	P-9.6	The Pythagorean Theorem	Exploration	8.G.B.3, 8.G.B.4	2, 3, 8	Multiple	1-2
	P-9.7	Apply the Pythagorean Theorem	Application	8.G.B.3, 8.G.B.4	1, 4, 5	Plumbers, Pipefitters and Steamfitters	1-2
	P-9.8	Find Distances Using the Pythagorean Theorem	Application	8.G.B.3, 8.G.B.4, 8.G.B.5	1, 2, 4	Architectural and Civil Drafters	1-2
	P-9.9	The Converse of the Pythagorean Theorem	Exploration	8.G.B.3, 8.G.B.4	1, 4, 7	Multiple	1-2
	P-9.10	Apply the Converse of the Pythagorean Theorem	Application	8.G.B.3, 8.G.B.4	1, 2, 4	Construction and Building Inspectors	1-2
P	P-9-P	The Number System	Project (Information Technology)	8.G.B.3, 8.G.B.4, 8.NS.A.1, 8.NS.A.2	1, 2, 3, 5	Web Developers	3-6
10. MEASUREMENT AND VOLUME							**10-16**
	P-10.1	Find Circumference and Area of Circles	Exploration	7.G.B.3	4, 5, 8	Multiple	1
	P-10.2	Apply Area of Circles	Application	7.G.B.3	1, 4, 6	Market Research Analysts and Marketing Specialists	1-2
	P-10.3	Find Volume of Cylinders	Exploration	8.G.C.6	1, 2, 4, 6	Multiple	1
	P-10.4	Apply Volume of Cylinders	Application	8.G.C.6	1, 2, 4, 5	Geological Technicians	1-2
	P-10.5	Find Volume of Cones	Exploration	8.G.C.6	2, 5, 7	Multiple	1
	P-10.6	Apply Volume of Cones	Application	8.G.C.6	2, 5, 7	Chefs and Head Cooks	1-2
	P-10.7	Find Volume of Spheres	Exploration	8.G.C.6	1, 4, 6	Multiple	1
	P-10.8	Apply Volume of Spheres	Application	8.G.C.6	1, 2, 6	Secondary School Teachers	1-2
	P-10.9	Find Volume of Composite Solids	Exploration	8.G.C.6	1, 2, 4, 6	Multiple	1-2
	P-10.10	Apply Volume of Composite Solids	Application	8.G.C.6	1, 2, 4	Mobile Heavy Equipment Mechanics	1-2

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