

**Beginning Algebra Part I OER Instructors' Guide**

Class	MOM Section	Topic	Objectives	Teaching Notes	Suggested Homework
1.	0.1	<b>Integers</b>	Add, subtract, multiply and divide positive and negative numbers	<p><b>Teach:</b>                      Teach Workbook examples and give in-class practice problems to students using workbook exercises (instructor can always modify number of exercises if necessary, based on level of class)</p> <p>Workbook examples A, B</p> <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1-7</li> </ul> <p>Workbook examples C-F</p> <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 8-18 even</li> </ul> <p>Workbook examples G, H</p> <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 19-24</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Practice problems</li> </ul>
2.	0.2	<b>Fractions</b>	Reduce, add, subtract, multiply, and divide with fractions	<p><b>Teach:</b>                      Workbook examples A- C</p> <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1-7 odd</li> </ul> <p>Workbook examples D-G</p> <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 9-17 odd</li> </ul> <p>Workbook examples H-K</p> <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 19-25 odd</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Practice problems</li> </ul>
3.	0.3	<b>Order of Operations</b>	Evaluate expressions using the order of operations	<p><b>Teach:</b>                      Workbook examples A-C</p> <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1-6</li> </ul> <p>Workbook examples D-E</p> <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 7-15 odd</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>

4.	0.4	<b>Properties of Algebra</b>	Simplify algebraic expressions by substituting given values, distributing, and combining like terms	<b>Teach:</b> Workbook examples A -E Worksheet #6 • In-class problems for students: Worksheet: 1, 3, 5, 10 13 & 18 Workbook examples F Worksheet # 28, 30	Myopenmath • Video problems • Practice problems
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				• In-class problems for students: Worksheet: 19 -31 odd	
5.	1.1	<b>One-Step Equations</b>	Solve one step linear equations by balancing using inverse operations	<b>Teach:</b> Workbook examples A- F • In-class problems for students: Worksheet: 1 - 15 odd	Myopenmath • Video problems • Practice problems
6.	1.2	<b>Two-Step Equations</b>	Solve two-step equations by balancing and using inverse operations	<b>Teach:</b> Workbook examples A- C and worksheet #8 & 10 • In-class problems for students: Worksheet: 1-9 odd Workbook examples D Worksheet #12, 14 • In-class problems for students: Worksheet: 11, 13, 15	Myopenmath • Video problems • Practice problems

7.	1.3	<b>General Linear Equations</b>	<p>Solve general linear equations with variables on both sides</p> <p>Use the solution of an equation to classify the equation as either a conditional equation, an identity, or a contradiction</p>	<p><b>Teach:</b>  Workbook examples A, B</p> <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1-7</li> </ul> <p>Workbook examples C, D</p> <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 8-10</li> </ul>	<p>Myopenmath</p> <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>
8.	1.4	<b>Solving with Fractions</b>	<p>Solve linear equations with rational coefficients by multiplying by the least common denominator to clear the fractions</p>	<p><b>Teach:</b>  Workbook examples A, B, C</p> <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1, 2, 4, 7, 9, 11</li> </ul> <p>Workbook example D</p> <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 3, 5, 6, 8</li> </ul>	<p>Myopenmath</p> <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>

9.	1.5	<b>Formulas</b>	<p>Solve linear formulas for a specific variable</p>	<p><b>Teach:</b>  Workbook examples A-D, F</p> <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1-9, 11</li> </ul> <p>Workbook example E</p> <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 10, 12</li> </ul>	<p>Myopenmath</p> <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>
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10.	1.8	<b>Application: Number/Geometry</b>	Solve number and geometry problems by creating and solving a linear equation	<b>Teach:</b> Workbook examples A- C & worksheet #8 & 10 • In-class problems for students: Worksheet: 1- 11 odd Workbook examples D-F • In-class problems for students: Worksheet: 1, 3, 5, and 9	Myopenmath • Video problems • Practice problems
11.	1.9	<b>Other Applications</b>	Set up a linear equation to solve age, commission, sales tax, and discount problems	<b>Teach:</b> Workbook examples A worksheet # 2 • In-class problems for students: Worksheet: 1 Workbook examples B-C worksheet # 4 • In-class problems for students: Worksheet: 3, 5 Workbook examples D-E worksheet # 10, 12 • In-class problems for students: Worksheet: 7, 9, 11	Myopenmath • Video problems • Practice problems
12.	3.1	<b>Solve and Graph Inequalities</b>	Solve, graph, and give interval notation for the	<b>Teach:</b> Workbook examples A-C • In-class problems for students:	Myopenmath • Video problems

			solution to linear inequalities	Worksheet: 1,3,7,9 Workbook examples D, F Worksheet # 16 • In-class problems for students: Worksheet: 11, 13, 15, 17	• Practice problems
13.	2.1	<b>Points and Lines</b>	Graph points and linear equations by finding and plotting ordered pair solutions using xy coordinates.	Teach: Workbook example A • In-class problems for students: Worksheet: 1, 4, 7, 10, 13, 18, 19, 21 Workbook example B, C • In-class problems for students: Worksheet: 1-9 odd	Myopenmath • Video problems • Practice problems
14.	2.2	<b>Slope</b>	Find the slope of a line given a graph or two points	Teach: Workbook example A • In-class problems for students: Worksheet: 1, 2 Workbook example B • In-class problems for students: Worksheet: 4, 5, 6 Workbook example C • In-class problems for students: Worksheet: 10-14	Myopenmath • Video problems • Practice problems
15.	2.3	<b>Slope-Intercept Form</b>	Write the equation of a line using slope intercept form	<b>Teach:</b> Workbook example A • In-class problems for students: Worksheet: 1, 2 Workbook examples B, C • In-class problems for students: Worksheet: 4, 5, 6, 7, 8 Workbook example D • In-class problems for students: Worksheet: 11-14 •	Myopenmath • Video problems • Practice problems

16.	2.4	<b>Point-Slope Form</b>	Give the equation of a line with a known slope and point	<b>Teach:</b> Workbook example A <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1-5 odd</li> </ul> Workbook examples B, C, D <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 6-10 even</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>
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17.	2.5	<b>Parallel &amp; Perpendicular Lines</b>	Write an equation of a line given a parallel or perpendicular line	<b>Teach:</b> Workbook example A, B <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1-9 odd</li> </ul> Workbook examples C, D, E <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 13-21 odd</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>
18.	4.1	<b>Graphing</b>	Solve systems of equations by graphing and identifying the point of intersection	<b>Teach:</b> Workbook example A, B <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1-3</li> </ul> Workbook examples C-F <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 4, 6, 8</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>
29.	4.2	<b>Substitution</b>	Solve systems of equations using substitution	<b>Teach:</b> Workbook example A, B <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1, 3, 4</li> </ul> Workbook examples C <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 5, 6</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>

20.	4.3	<b>Addition/Elimination</b>	Solve systems of equations using the addition/elimination method	<b>Teach:</b> Workbook example A <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1, 2</li> </ul> Workbook examples B, C, D <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 3, 4, 5, 7</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>
21.	4.5	<b>Application: Value Problems</b>	Solve value problems by setting up a system of equations	<b>Teach:</b> Workbook examples A, B <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1, 2, 3, 5</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Video problems</li> </ul>

					<ul style="list-style-type: none"> <li>Practice problems</li> </ul>
22.	4.6	<b>Application: Mixture Problems</b>	Solve mixture problems by setting up a system of equations	<b>Teach:</b> Workbook examples A, B <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1, 2, 3, 4</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>

23.	5.1	<b>Exponent Properties</b>	Simplify expressions using the properties of exponents	<b>Teach:</b> Workbook examples A-D <ul style="list-style-type: none"> <li>In-class problems for students:</li> </ul> Worksheet: 1, 3, 5 Workbook examples E-G <ul style="list-style-type: none"> <li>In-class problems for students:</li> </ul> Worksheet: 7,9,11 Workbook examples H-K <ul style="list-style-type: none"> <li>In-class problems for students:</li> </ul> Worksheet: 13, 15, 17, 20 Workbook examples L,M,O,P <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 21,23,24,25</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>
24.	5.2	<b>Negative Exponents</b>	Simplify expressions with negative exponents using the properties of exponents	<b>Teach:</b> Workbook examples A-F <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1-7</li> </ul> Workbook examples G, H <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 8-15</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>
25.	5.3	<b>Scientific Notation</b>	Multiply and divide expressions using	<b>Teach:</b> Workbook example A, B, E, F	Myopenmath
			scientific notation and exponent properties	<ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1-11 odd</li> </ul> Workbook examples I, J <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 13, 15</li> </ul>	<ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>



26.	5.4	<b>Introduction to Polynomials</b>	Evaluate, add, and subtract polynomials	<b>Teach:</b> Workbook example A, B, C <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1, 2</li> </ul> Workbook examples D, E <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 3, 4, 6, 7, 8</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>
27.	5.5	<b>Multiply Polynomials</b>	Multiply polynomials	<b>Teach:</b> Workbook example A <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1, 3</li> </ul> Workbook examples B, C <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet 5, 7, 8</li> </ul> Workbook examples E <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 9, 11, 13, 14, 16</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>
28.	5.6	<b>Multiply Special Products</b>	Recognize and use special product rules of a sum and difference and perfect squares to multiply polynomials	<b>Teach:</b> Workbook examples A, C <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1-7 odd</li> </ul> Workbook examples D, F, G <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet 9-17 odd</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Video problems</li> <li>Practice problems</li> </ul>
29.	5.7	<b>Divide Polynomials</b>	Divide polynomials using long division	<b>Teach:</b> Workbook examples A, C, E <ul style="list-style-type: none"> <li>In-class problems for students: Worksheet: 1, 4, 5</li> </ul>	Myopenmath <ul style="list-style-type: none"> <li>Video problems</li> </ul>

				Workbook examples F, G, H • In-class problems for students: Worksheet: 7, 9, 11, 13	• Practice problems
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