

Chapter, Section	<u>Objective and Examples</u>	Material Covered by the end of week #
1.1	<p><b><u>Identifying Real Numbers</u></b></p> <p><b>Natural</b> Example: {1, 2, 3, 4,}</p> <p><b>Whole</b> Example: {0, 1, 2, 3, 4,}</p> <p><b>Integers</b> Example: {...-3,-2,-1, 0, 1, 2, 3, 4 ...}</p> <p><b>Rational:</b> (Terminating decimal and Repeating decimal) Example: {4, 9.8, -8.99, 0/2}</p> <p><b>Irrational numbers:</b> (Non-Terminating decimal) Example { <math>\sqrt{3}</math>, <math>\pi</math>, 2.3517..... }</p> <p><b>Undefined numbers:</b> Example: <math>\frac{5}{0}</math></p>	1
1.2	<p><b><u>Integers:</u></b></p> <p>Adding/subtracting: Example: Simplify. <math>-2 + 7 + 3 - 1</math></p> <p>Multiplying/dividing: Example: Simplify. <math>(-2)(7)(-1)</math></p> <p>Example: Simplify. <math>\frac{30}{-10}</math></p>	1
1.3	<p><b><u>Least Common Multiple (LCM):</u></b></p> <p>Example: Find the LCM for 25, 125 and 50</p> <p><b><u>Greatest Common Factor (GCF):</u></b></p> <p>Example: Find the GCF for 8,16 and 24</p>	2

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1.3	<p><b>Fractions</b> (Add, Subtract, Multiply, Divide improper fraction and mixed fractions)</p> <p>Example: <math>4\frac{3}{7} - \frac{9}{10}</math>.</p> <p>Example: <math>-4\frac{5}{7} \cdot (\frac{7}{8})</math>.</p>	2
1.4	<p><b>Radicals:</b></p> <p>Example: Simplify. <math>\sqrt[3]{-27}, \sqrt{81}</math></p>	2
1.4	<p><b>Rules for Exponents:</b></p> <p>Example: Simplify.</p> $\left( \frac{x^3 y^{-4}}{xy} \right)^{-1}$	3
1.5	<p><b>Order of Operations:</b> _____</p> <p>Example: Simplify. <math>-(-3)^2 - (4 \cdot 3 + 1)</math></p>	3
1.6	<p><b>Solving Linear Equations:</b></p> <p>Example: Solve. <math>-(3x + 1) + 1 = \frac{x}{3}</math></p>	4
1.7	<p><b>Solving Linear Inequalities:</b></p> <p>Example: Solve. <math>2x + 1 &gt; 4</math></p>	4 and 5
1.8	<p><b>Solving Absolute Values Equations.</b></p> <p>Example: Solve. <math>3 x + 1  = 9</math></p>	5

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2.1	<p><b><u>Points in the Coordinate Plane:</u></b></p> <p>Example: Which quadrant does the point (-5,6) belong to?</p> <p>Example: For the equation <math>y = 7x - 1</math>, find the values in the following table.</p> <table border="1" data-bbox="890 741 1078 853"> <thead> <tr> <th>x</th> <th>y</th> </tr> </thead> <tbody> <tr> <td>2</td> <td></td> </tr> <tr> <td></td> <td>-1</td> </tr> </tbody> </table>	x	y	2			-1	6
x	y							
2								
	-1							
2.2	<p><b><u>Finding the Distance between two points :</u></b></p> <p>Example: Find the distance between points (-2,3) and (0,7).</p>	6						
2.2	<p><b><u>Finding the Midpoint between two points:</u></b></p> <p>Example: Find the distance between points (-2,3) and (0,7).</p>	6						
2.2	<p><b><u>Use of the Pythagorean Theorem:</u></b></p> <p>Example: Given a right triangle where a, b are the legs and c is the hypotenuse, find a when b= 2 and c= 9.</p>	6						
2.3	<p><b><u>Finding the slope, intercepts of lines and graphs of lines:</u></b></p> <p>Examples:</p> <ol style="list-style-type: none"> <li>Find the slope of two points (-3,1) and (4,5).</li> <li>Find the x and y intercept of <math>y = x + 6</math>.</li> <li>Graph the line <math>y = 3x + 1</math>.</li> </ol>	7						

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2.4/2.5	<p><b><u>Equations of a Line:</u></b></p> <p>a) <math>y = mx + b</math>            Example: Find the slope and y intercept for the equation <math>y = 8x + 7</math>.</p> <p>b) <math>y - y_1 = m(x - x_1)</math>            Example: Find the equation of a line with slope 2 and passing through the point (-3, 6).</p> <p>c) Finding the slope and equation of perpendicular and parallel lines.            Example: Find the equation of a line passing through the point (0,-1) and is parallel to <math>y = 3x + 8</math>.</p>	8
2.6	<p><b><u>Introduction to Functions:</u></b></p> <p>Examples: Find the domain of the function: <math>f(x) = \frac{1}{x-1}</math>.</p>	9
2.7	<p><b><u>Applying vertical line test to graphs:</u></b></p> <p>Example: Is the graph of a circle a function by the vertical the line test?</p>	9
3.1	<p><b><u>Evaluating polynomial or rational functions:</u></b></p> <p>Example: Find <math>f(-1)</math> for</p> $f(x) = -x^3 - x^2 + 3x - 1$	9

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3.2	<p><b><u>Polynomial Functions:</u></b>            Add/Subtract :</p> <p>Example: <math>(3x^3 - x) - (x^3 - x^2 + 1)</math></p> <p>Multiply:</p> <p>Example: <math>(3x - x)(x^3 - x^2 + 1)</math></p>	11
4.1/4.2	<p><b><u>Factoring:</u></b></p> <p>a) By finding the GCF:            Example: <math>-5x^3 + 25x</math></p> <p>b) By grouping            Example: <math>2b + 2c + ab + ac</math></p>	11
4.2	<p><b><u>Factoring Special Binomials:</u></b></p> <p>Example: Factor. <math>x^2 - 1</math> and <math>x^3 - 8</math>.</p>	12
4.3	<p><b><u>Factoring Trinomials:</u></b></p> <p>Example: Factor. <math>9x^2 - 30x + 25</math></p>	13
4.4	<p><b><u>Use Factoring to Solve Equations:</u></b></p> <p>Example: Solve. <math>(x - 3)(x - 1) = 0</math></p>	13 and 14