

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

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

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2.1	<p><u>Points in the Coordinate Plane:</u></p> <p>Example: Which quadrant does the point (-5,6) belong to?</p> <p>Example: For the equation $y = 7x - 1$, find the values in the following table.</p> <table><tr><td>x</td><td>y</td></tr><tr><td>2</td><td></td></tr><tr><td></td><td>-1</td></tr></table>	x	y	2			-1	6
x	y							
2								
	-1							
2.2	<p><u>Finding the Distance between two points :</u></p> <p>Example: Find the distance between points (-2,3) and (0,7).</p>	6						
2.2	<p><u>Finding the Midpoint between two points:</u></p> <p>Example: Find the distance between points (-2,3) and (0,7).</p>	6						
2.2	<p><u>Use of the Pythagorean Theorem:</u></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><u>Finding the slope, intercepts of lines and graphs of lines:</u></p> <p>Examples:</p> <ul style="list-style-type: none">a) Find the slope of two points (-3,1) and (4,5).b) Find the x and y intercept of $y = x + 6$.c) Graph the line $y = 3x + 1$.	7						

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

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