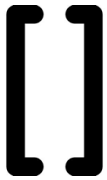

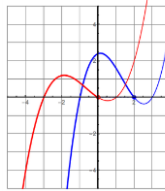
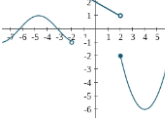
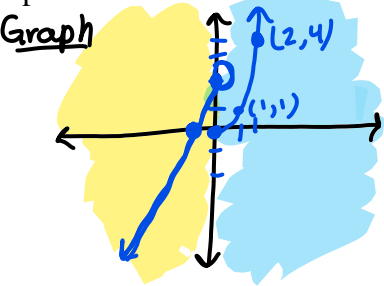


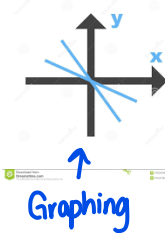
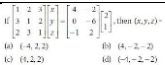




# Pre-Engineering Adv. Algebra 2

## Topic 1: Linear Functions and Systems

	<p>8/12 (A) or 8/15 (B)</p> <p><b>1-0 Interval Notation, Key Features of Functions</b></p> <p>How can I use mathematical symbols to represent groups of numbers?</p> <p>*[ ] use when you want to include value</p> <p>*( ) use when you don't want to include or <math>\infty</math></p> <p>*Numbers written (smallest, largest)</p>	<p><b>Assignment</b></p> <p>1-0 Interval Notation</p>
	<p>8/16 (A) or 8/17 (B)</p> <p><b>1-1 Key Features of Functions (continued)</b></p> <p>How can I describe the way a function looks using correct vocabulary and notation?</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>POSITIVE ← ZERO → NEGATIVE</p> <p>Give x-values</p> </div> <div style="width: 30%;"> <p>*( ) always</p> <p>increasing decreasing</p> <p>Give x-values</p> </div> <div style="width: 30%;"> <p>average rate of change is slope between 1st &amp; last point</p> </div> </div>	<p><b>Assignment</b></p> <p>1-1 Key Features of Functions</p> $m = \frac{y_2 - y_1}{x_2 - x_1}$
	<p>8/18 (A) or 8/22 (B)</p> <p><b>1-2 Transformations of Functions</b></p> <p>How do changes in an equation affect the shape of a graph?</p> <div style="display: flex; align-items: center;"> <math display="block">y = a f(x - h) + k</math> <div style="margin-left: 20px;"> <p>multiply y's by a → vertical stretch/comp</p> <p>- a reflect x-axis</p> <p>right</p> </div> <div style="margin-left: 20px;"> <p>up</p> </div> <div style="margin-left: 20px;"> <p>horizontal stretch/comp</p> <p>-b reflect across y</p> </div> <div style="margin-left: 20px;"> <p>divide x by b</p> </div> </div>	<p><b>Assignment</b></p> <p>1-2 MathXL: Transformations of Functions</p>
 <p style="text-align: center;">↑ Graph</p>	<p>8/23 (A) or 8/24 (B)</p> <p><b>1-3 Piecewise Functions</b></p> <p>How can I evaluate and graph a piecewise function?</p> <p><math>f(x) = \begin{cases} 2x+2, &amp; x &lt; 0 \\ x^2, &amp; x \geq 0 \end{cases}</math></p> <p><u>Evaluate</u></p> <p><math>f(-1) = 2x+2</math></p> <p><math>= 2(-1)+2</math></p> <p><math>f(-1) = 0</math></p> <p><math>(-1, 0)</math></p> <p><u>Graph</u></p> 	<p><b>Assignment</b></p> <p>1-3 MathXL: Piecewise Functions</p>

	<p><b>8/25 (A) or 8/26 (B)</b>  <b>1-4 Arithmetic Sequences and Series</b>          What is an arithmetic sequence?  <math>2, 5, 8, 11, \dots</math> add common difference          How can I use an arithmetic sequence to find a specific term?          Explicit Form <math>a_n = a_1 + d(n-1)</math>          How can I find the sum of an arithmetic sequence?  <math>S_n = \left( \frac{a_1 + a_n}{2} \right) n</math>          What is summation notation?  <math>\sum_{h=1}^{\text{# of last term}} (\text{explicit form})</math></p>	<p><b>Assignment</b>           1-4: Arithmetic Sequences</p>
	<p><b>8/29 (A) or 8/30 (B)</b>  <b>Review for Quiz</b></p>	<p>Quiz Review</p>
	<p><b>8/31 (A) or 9/1 (B)</b>  <b>Topic 1 Quiz and</b>  <b>1-5 Solving Equations/Inequalities by Graphing</b>          How can I use graphs to solve equations and inequalities?  <math>2^{3x} - 4  x^2 + 1  = 3x + 8</math> *Estimate*  <math>y = 2^{3x} - 4  x^2 + 1 </math>  <math>y = 3x + 8</math>          Graph. Solution is the x-coordinate at intersection</p>	<p>1-5 Solving Equations/Inequalities Graphically</p>
	<p><b>9/2(A) or 9/6 (B)</b>  <b>1.6 Solving Systems of Equations by Substitution, Graphing, Elimination</b>  <math>\begin{cases} \text{1 solution } x=3, y=4 \\ \text{no solutions } 0=1 \\ \text{infinitely many solutions } 0=0 \end{cases}</math>          Substitution: <math>\begin{cases} y = -3x + 1 \\ 3x - 2y = 4 \end{cases} \rightarrow 3x - 2(-3x + 1) = 4 \rightarrow 3x - 2(-3x + 1) = 4</math>          Elimination: <math>\begin{cases} 3x - 2y = 14 \\ 7x + 2y = -4 \end{cases} \rightarrow 10x = 10</math></p>	<p>1.6 Solving Systems of Equations</p>
	<p><b>9/7(A) or 9/9 (B)</b>  <b>1.6/1.7 Solving Systems of Equations with Matrices</b>          1. Stack equations  <math>\begin{matrix} x &amp; y &amp; = &amp; \# \\ x &amp; y &amp; = &amp; \# \end{matrix}</math>          2. Enter matrix          3. rref form  <math>\begin{bmatrix} 1 &amp; 0 &amp; 0 &amp; : &amp; 3 \\ 0 &amp; 1 &amp; 0 &amp; : &amp; 2 \\ 0 &amp; 0 &amp; 1 &amp; : &amp; 5 \end{bmatrix}</math> answers          Infinitely Many rref <math>\begin{bmatrix} 1 &amp; 0 &amp; 0 &amp; : &amp; 0 \\ 0 &amp; 1 &amp; 0 &amp; : &amp; 0 \\ 0 &amp; 0 &amp; 1 &amp; : &amp; 0 \end{bmatrix} 0=0</math>          No Solution <math>\begin{bmatrix} 1 &amp; 0 &amp; 0 &amp; : &amp; 1 \\ 0 &amp; 1 &amp; 0 &amp; : &amp; 1 \\ 0 &amp; 0 &amp; 1 &amp; : &amp; 1 \end{bmatrix} 0=1</math></p>	<p>1.6/1.7 Solving Systems with Matrices</p>
	<p><b>9/9(A) or 9/12(B)</b>  <b>Topic 1 Review</b></p>	<p>Topic 1 Test Review</p>
	<p><b>9/13(A) or 9/14(B)</b>  <b>Topic 1 Test</b></p>	

*\*These assignments are subject to change.\**