






Station 1 - Points

Definition	<u>Points</u> are locations in space with no dimension represented by a dot.	
How to label	<u>Points</u> are labeled using a single, capital letter. It is important to use a capital letter because lowercase letters are used for labeling <u>lines</u> .	
Diagram		
HW Problems & Examples	<u>Points</u> are relatively easy and used in almost everything else we do. Almost every homework problem we do will use <u>points</u> in some way.	
Extra Information	You have already plotted points on a number and on a 2-dimensions coordinate graph. Eventually, we will start plotting points in 3-dimensions!	

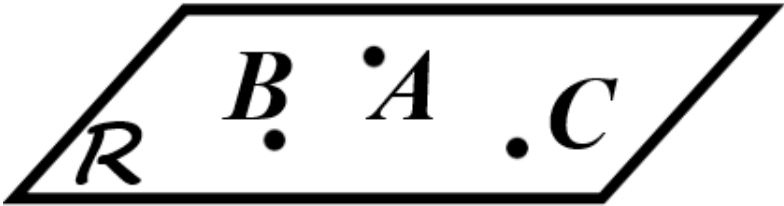
Station 2 - Segments

Definition	A segment is section of a line consisting of two points (called <i>endpoints</i>) and all the points between them on the line .	
How to label	<p>Segments are labelled using the two endpoints and a bar drawn above them.</p> <p>Since neither <i>endpoint</i> is more important than the other, the order you list them does not matter. The two segments to the right are actually the same segment!</p>	\overline{AB} \overline{BA}
Diagram	 <p>The diagram shows a horizontal line segment with two solid black dots at each end. The left dot is labeled with a bold, italicized letter 'A' and the right dot is labeled with a bold, italicized letter 'B'.</p>	
HW Problems & Examples	1.1 #12	
Important Information	Segments are also called known as Line Segments since they are part of a line.	


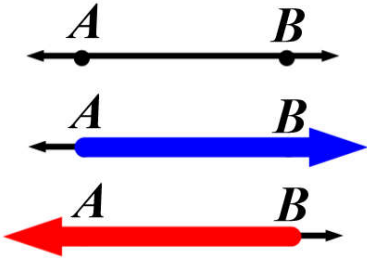

Station 3 - Lines

<p>Definition</p>	<p><u>Lines</u> are straight paths with no thickness extending forever in opposite directions.</p>	
<p>How to label</p>	<p><u>Lines</u> are labeled by choosing any TWO points on the line with a double-sided arrow on top.</p> <p>You may also label a <u>line</u> using a single, lowercase letter. In the diagram below, you can label it line <i>m</i>.</p>	<p>All the seven of the following are correct ways to label the line below:</p> <p>\overleftrightarrow{AB} \overleftrightarrow{AG} \overleftrightarrow{GB} \overleftrightarrow{BA} \overleftrightarrow{GA} \overleftrightarrow{BG} Line <i>m</i></p>
<p>Diagram</p>		
<p>HW Problems & Examples</p>	<p>1.1 #4,7</p>	
<p>Extra Information</p>	<p><u>Lines</u> extend forever in opposite directions, and thus have no length.</p> <p>Only two points are needed to label a <u>line</u>. You never use three or more points to label a <u>line</u>. For example, an incorrect way to label the line above would be:</p> <p>\overleftrightarrow{AGB} </p>	


Station 4 - Planes

<p>Definition</p>	<p>Planes are flat surfaces with no thickness, extending forever in all directions on that surface.</p>	
<p>How to label</p>	<p>Planes are labeled in one of two ways.</p> <p>The first is by writing the word plane and listing any 3 points in that plane that do NOT lie on the same line.</p> <p>The second way is by using an uppercase script letter, similar to a fancy font.</p>	<p>In the diagram below, you can label the plane either:</p> <p style="text-align: center;">Plane <i>ABC</i> or Plane <i>R</i></p>
<p>Diagram</p>		
<p>HW Problems & Examples</p>	<p>1.1 #6,8,34,55(b and c)</p>	
<p>Extra Information</p>	<p>A plane is a 2-dimensional sheet, but can be drawn in 3-dimensional space. This means it can be challenging to draw, as shown in the diagram above.</p> <p>There are multiple other ways to label the plane above. Here are a few examples:</p> <p style="text-align: center;">Plane <i>ACB</i> Plane <i>BAC</i> Plane <i>CAB</i></p>	

Station 5 - Rays

<p>Definition</p>	<p>Rays are a part of a line that starts at one point (called the <i>endpoint</i>) and extends forever in one direction.</p>	
<p>How to label</p>	<p>Rays are labeled using two points, the first being the <i>endpoint</i> and the second being any point on the ray in the direction it extends.</p> <p>Important: The arrow on top of the two letters always points right, regardless of what direction the ray actually extends.</p>	
<p>Diagram</p>	<p>In the diagram to the right;</p> <ul style="list-style-type: none"> • The top is: \overleftarrow{AB} • The middle is: \overrightarrow{AB} • The bottom is: \overleftarrow{BA} 	
<p>HW Problems & Examples</p>	<p>1.1 #14</p>	
<p>Extra Information</p>	<p>If a ray contains more than 2 points, you can label it in multiple ways. The key is making sure the first letter is always the <i>endpoint</i>. For example, the ray to the right could be called \overrightarrow{HA} or \overrightarrow{HM}.</p>	

Station 6 – Opposite Rays

<p>Definition</p>	<p>Opposite Rays are two rays that (1) <u>start at the same endpoint</u> and (2) <u>extend in opposite directions</u>.</p>	
<p>How to label</p>	<p>Opposite rays are simply rays, so the way we label them is the same.</p>	<p>In the diagram below, since they share a common endpoint and extend in opposite directions, the only pair of opposite rays are:</p> \overrightarrow{ED} \overrightarrow{EF}
<p>Diagram</p>		
<p>HW Problems & Examples</p>	<p>1.1 #15,50</p>	
<p>Extra Information</p>	<p>The keys to being opposite rays:</p> <ol style="list-style-type: none"> 1. They must start at the same endpoint, in this example point E 2. They must extend in opposite directions, in this example one extends left and one extends right. <p>When opposite rays are put together, they form a line!</p>	

Collinear and Coplanar HW

1.1 #9,10,31,55(a)