Introduction to Line Segments

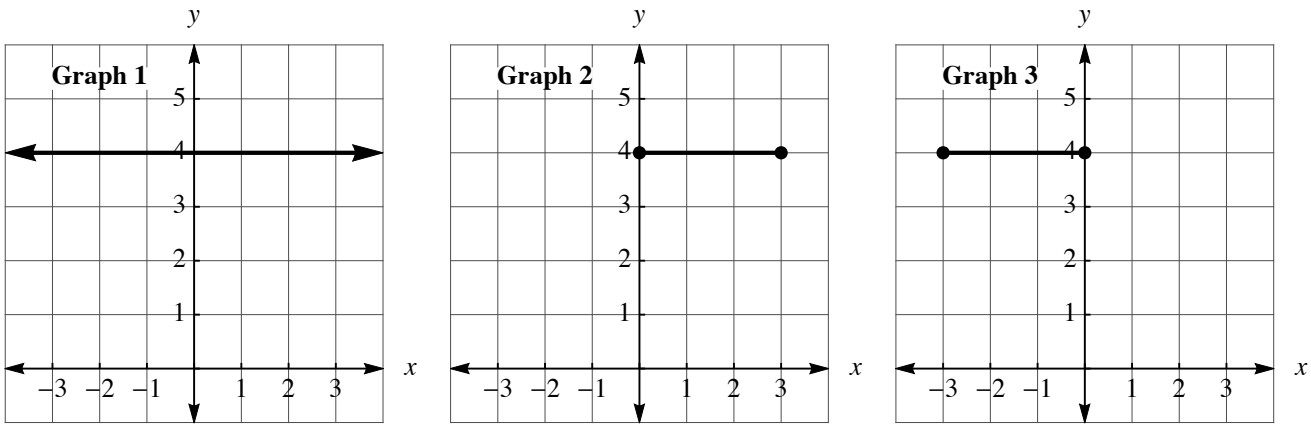
A line segment is geometric object, which is essentially a line that has two end-points:

Similar to lines and rays, we can graph line segments on a coordinate plane.

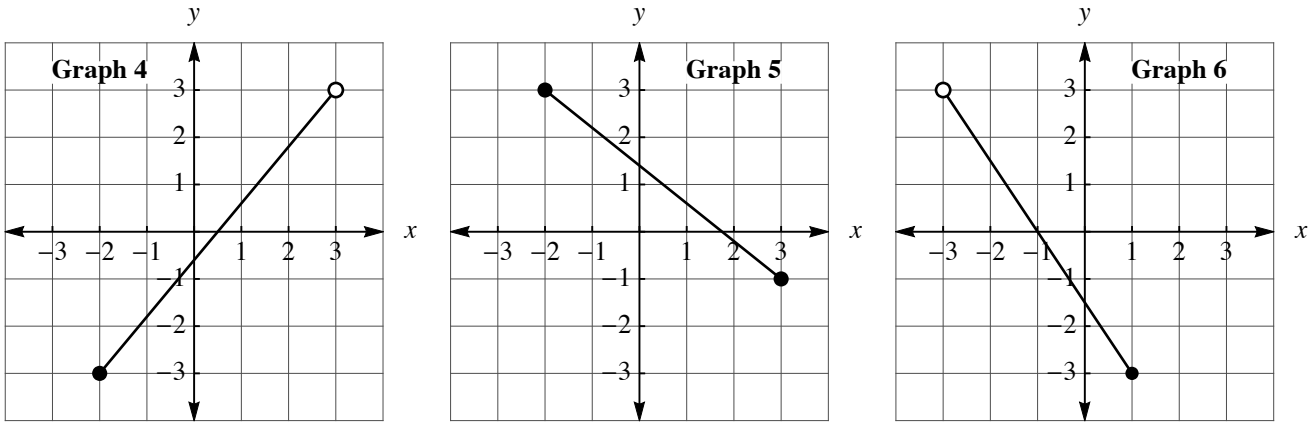
In Graph 1 (shown below) the line $y = 2$ is graphed (which of course is a horizontal line with a y-intercept of 2 and which extends indefinitely in both directions.

In Graph 2, a line segment that has an end-point on the y-axis and at $(3, 4)$ is shown.

In Graph 3, a ray that has an end-point on the y-axis and at $(-3, 4)$ is shown.



Of course, a line segment can have a slope, just like a line can. And the endpoints of a line segment can be included in the line segment (closed circle) or not included (open circle). The graphs below show a few examples.



From these graphs, it should be clear that a line segment is very similar to a line, except the domain of a line segment (and its range) is very different from that of a line. In the next set of notes we will use this observation to come up with a way of describing a line segment with an equation.