## Lesson 21: From One- to Two-Variable Inequalities

* Let’s look at inequalities in two dimensions.

### 21.1: Describing Regions of the Plane

For each graph, what do all the ordered pairs in the shaded region have in common?

A



B



C



D



### 21.2: More or Less

1. Write at least 3 values for $x$ that make the inequality true.
	1. $x<-2$
	2. $x+2>4$
	3. $2x−1\leq 7$
2. Graph the solution to each inequality on a number line.
	1. 
	2. 
	3. 
3. Using the inequality $x<-2$, write 3 coordinate pairs for which the $x$-coordinate makes the inequality true. Use the coordinate plane to plot your 3 points.
* 

### 21.3: Above or Below the Line

1. Graph the line that represents the equation $y=3x−4$
* 
1. Is the point $(4,8)$ on the line?
	1. Explain how you know using the graph.
	2. Explain how you know using the equation.
2. Use the 3 points $(5,a),(-7,b)$ and $(c,20)$
	1. Write values for $a,b,$ and $c$ so that the points are on the line.
	2. Write values for $a,b,$ and $c$ so that the points are above the line.
	3. Write values for $a,b,$ and $c$ so that the points are below the line.



© CC BY 2019 by Illustrative Mathematics®