Name_____ Period_____ Date_____

System #1	System #2	System #3
$y = \frac{1}{2}x - 2$	$y = -3 + 4x$	$y = -\frac{2}{3}x - 1$
$6x + 2y = 10$	$y = 4(x + 1) - 7$	$2x + 3y = 6$

Step 1: For each system, convert all equations into slope-intercept form.

Step 2: Use the three coordinate planes below. Graph the two lines in System #1 on the first coordinate plane, graph System #2 on the second coordinate plane and System #3 on the third coordinate plane.
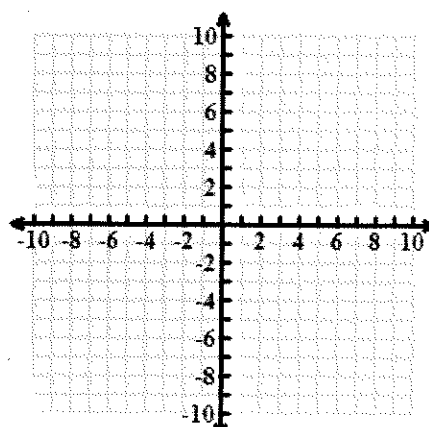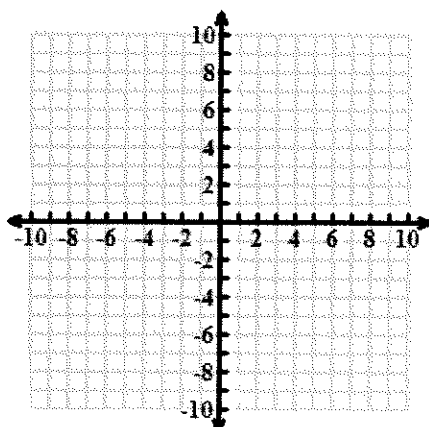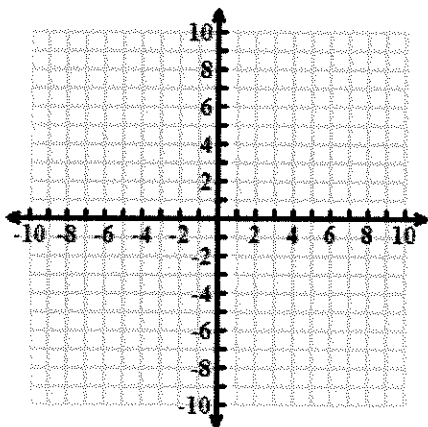
Step 3: Describe in words how the two lines in System #1 are related.

Step 4: Describe in words how the two lines in System #2 are related.

Step 5: Describe in words how the two lines in System #3 are related.

Step 6: Is there a way to tell, just by looking at the equations in slope-intercept form, when the lines will be intersecting, parallel or the same line? Explain your reasoning.

Step 7: Without graphing, how do you think the equations in System #4 are related? Explain your reasoning.

> **System #4**
> $y = 5x - 1$
> $y = 5x + 4$