# Graphing Inequalities

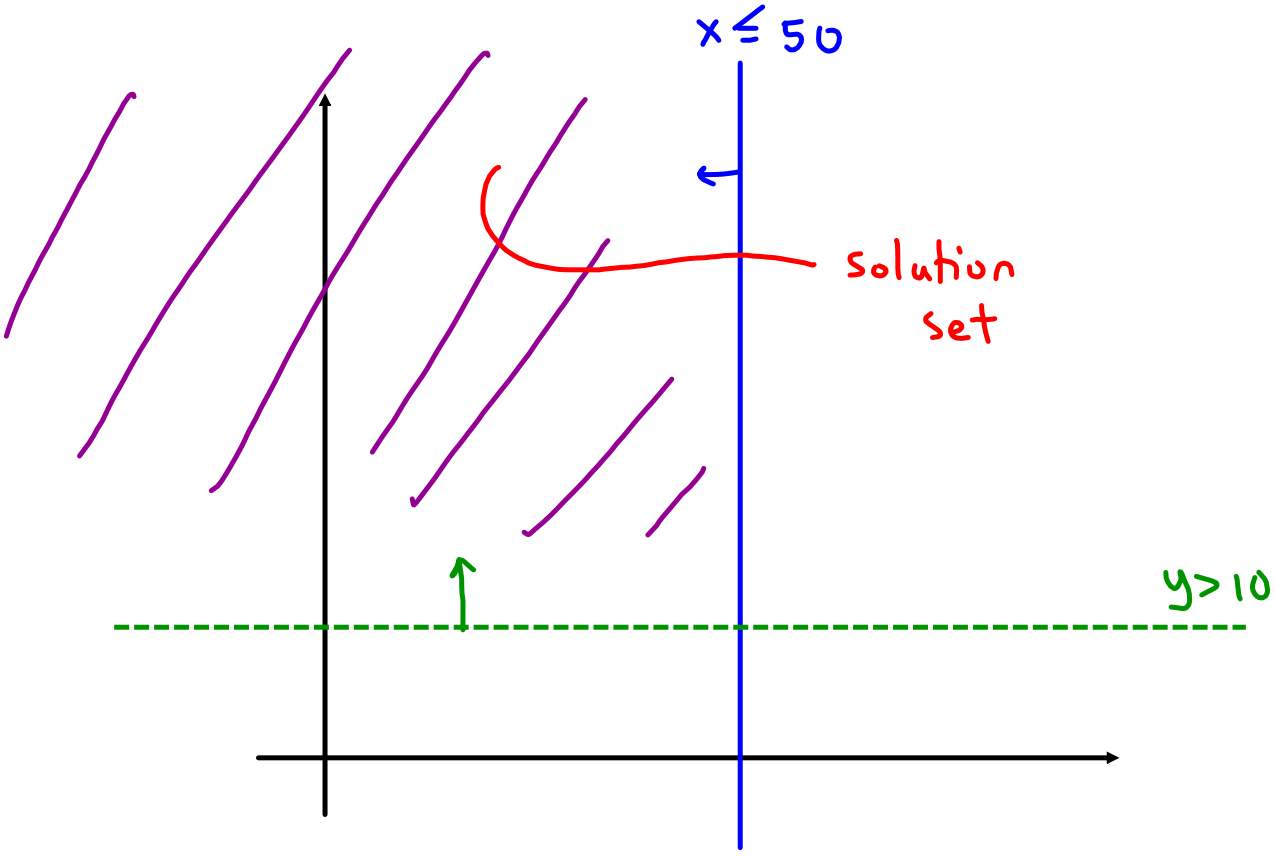
Goal:

- to be able to graph linear inequalities
- to determine whether points are included in solution set

p. 109 # 2-5

Graph the following:

$x \leq 50$ $y > 10$



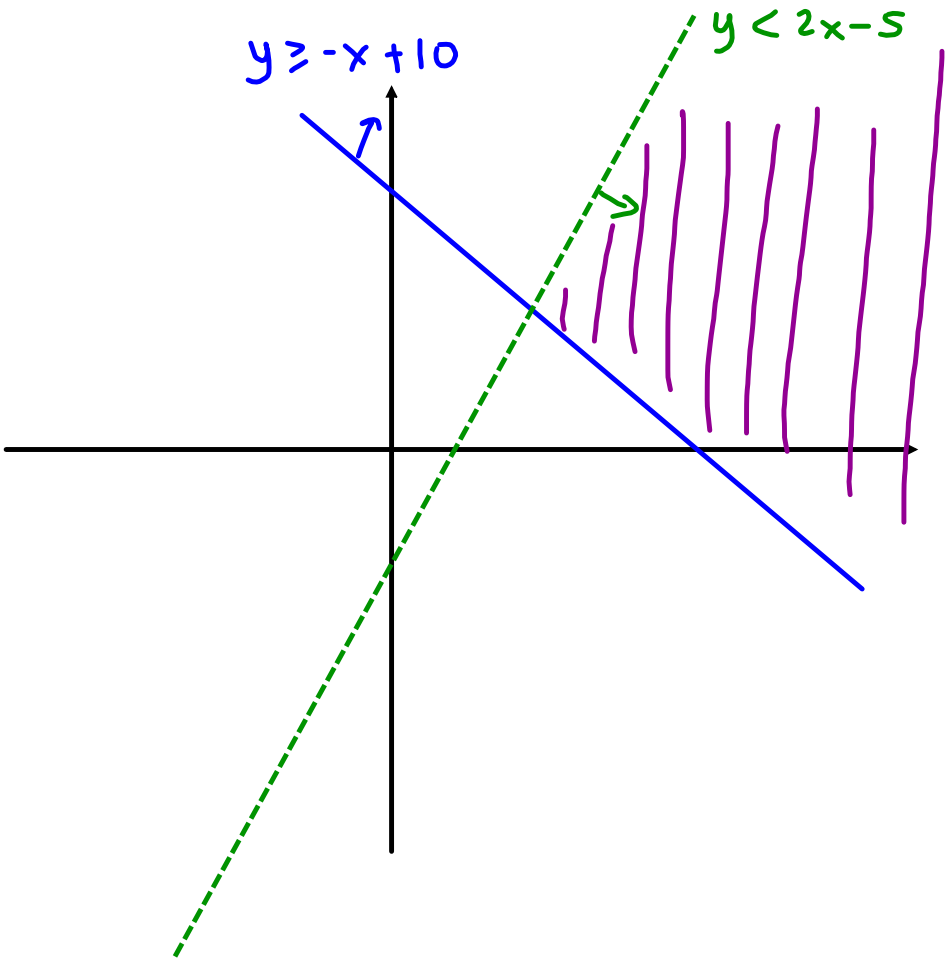
# Graph the following:

$y \geq -x + 10$

| x | y |
|---|---|
| 0 | 10 |
| 10 | 0 |

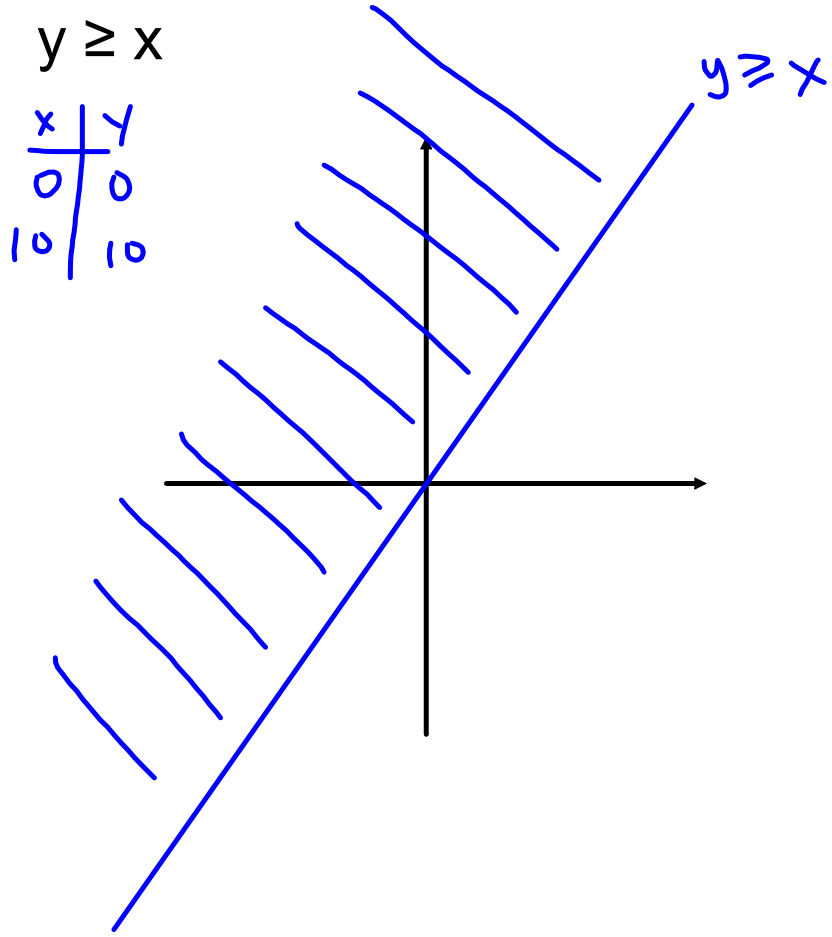
$y < 2x - 5$

| x | y |
|---|---|
| 0 | -5 |
| 2.5 | 0 |
| 5 | 5 |



$y \geq x$

| x | y |
|---|---|
| 0 | 0 |
| 10 | 10 |

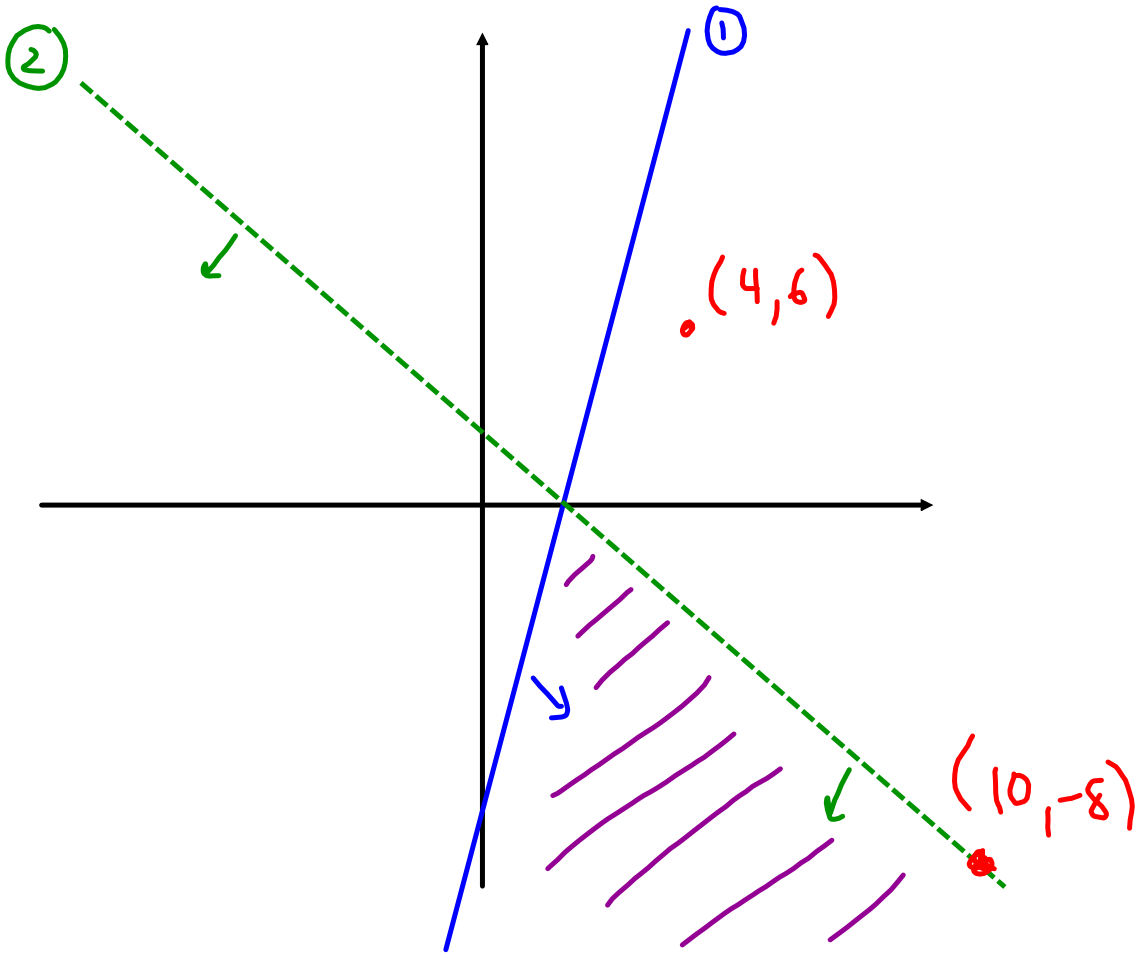


① $-4x + y \leq -8$

② $x + y < 2$

| x | y |
|---|---|
| 0 | -8 |
| 2 | 0 |

| x | y |
|---|---|
| 0 | 2 |
| 2 | 0 |



Does the point P(4,6) satisfy the inequality $-4x+y\leq -8$? Yes

Does it also satisfy $x+y<2$? No

What about the point (10,-8)?

$-4(10)+(-8)\leq -8$

$-40-8\leq -8$

$-48\leq -8$ ✓

$(10)+(-8)<2$

$2<2$ X