Mr. Demick NAME: KEY

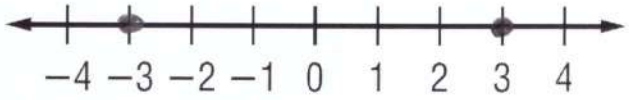
Algebra 1: Practice Test 6.5-6.6, 7.5 (*5 Points*)

*Solving Inequalities*

Write your answers on this paper in pencil and CIRCLE them. For problems 1-4, answers must be in **{set notation}** and Case 1 and Case 2 written to receive credit. *Failure is not an option!*

1. Solve the equation and graph the solution on the number line.

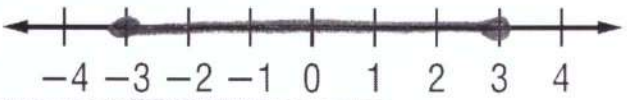
$|x| = 3$ Case 1 $x = 3$ Case 2 $x = -3$




$\{-3, 3\}$

2. Solve the inequality and graph the solution on the number line.

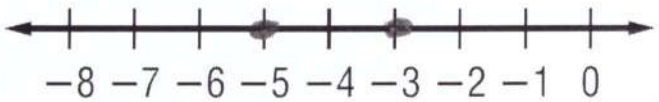
$|x| \leq 3$ Case 1 $x \leq 3$ Case 2 $x \geq -3$




$\{x \mid x \geq -3 \text{ or } x \leq 3\}$

3. Solve the equation and graph the solution on the number line.

$|y + 4| = 1$



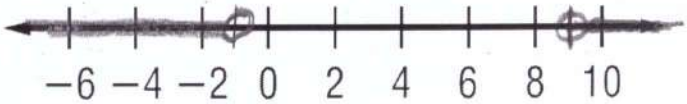

Case 1 $y + 4 = 1$ $y = -3$

Case 2 $y + 4 = -1$ $y = -5$

$\{-5, -3\}$

4. Solve the inequality and graph the solution on the number line.

$|y - 4| > 5$




Case 1 $y - 4 > 5$ $y > 9$

Case 2 $y - 4 < -5$ $y < -1$

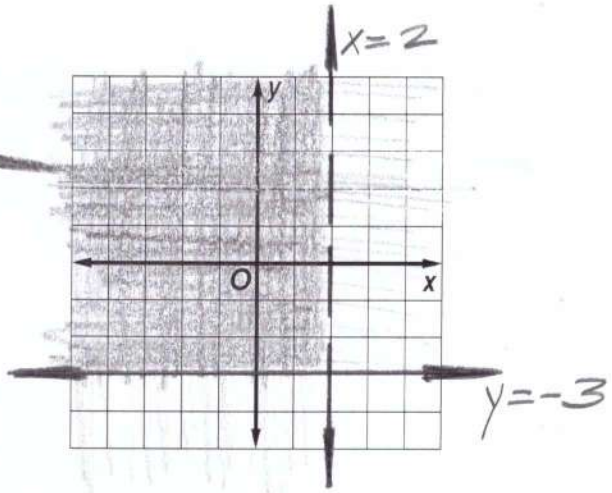
$\{y \mid y < -1 \text{ or } y > 9\}$

5. Solve the system of inequalities by graphing.

$x < 2$

$y \geq -3$

Sol. set




6. Solve the system of inequalities by graphing. Show all work for test points.

$y \leq x + 2$

$y > -3x - 1$

TEST (0,0)

$y \leq x + 2$

$0 \leq 0 + 2$

$0 \leq 2$ TRUE

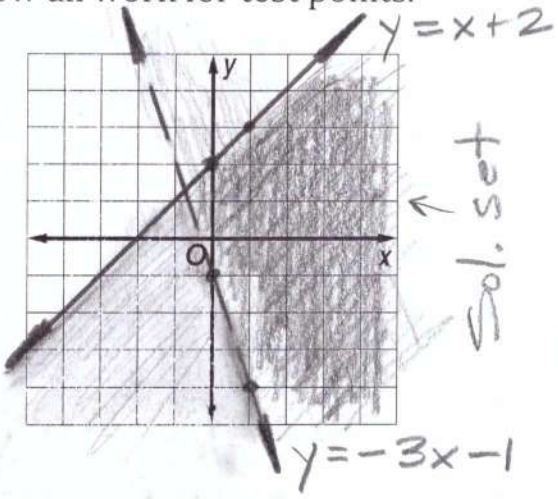
TEST (0,0)

$y > -3x - 1$

$0 > -3(0) - 1$

$0 > -1$

TRUE




7. Solve the system of inequalities by graphing. Show all work for test points.

$y - x > 2$

$x + y > -1$

Solve for y:

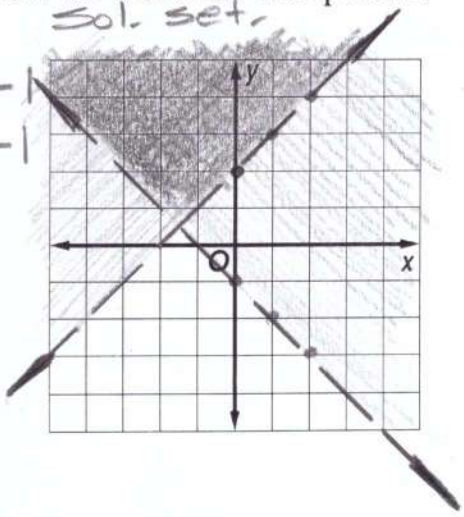
$y - x = 2$

$y = x + 2$

$x + y = -1$

$y = -x - 1$

Sol. set.




TEST (0,0)

$y - x > 2$

$0 - 0 > 2$

$0 > 2$

FALSE

TEST (0,0)

$x + y > -1$

$0 + 0 > -1$

$0 > -1$

TRUE