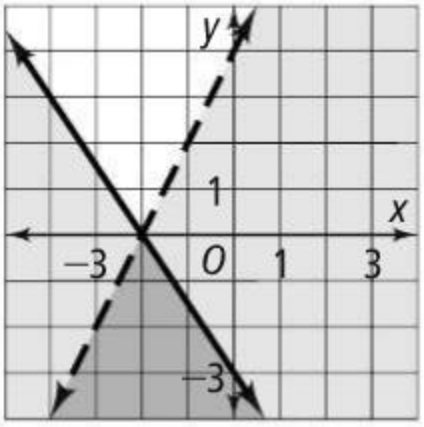
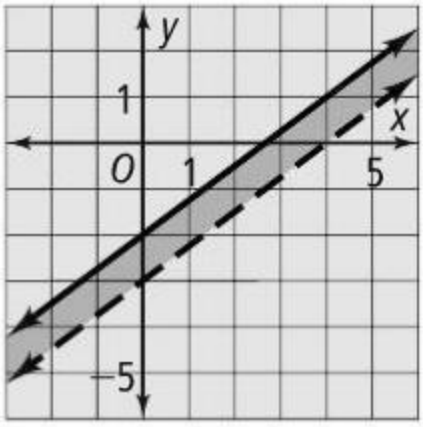
1.



2.



3. yes

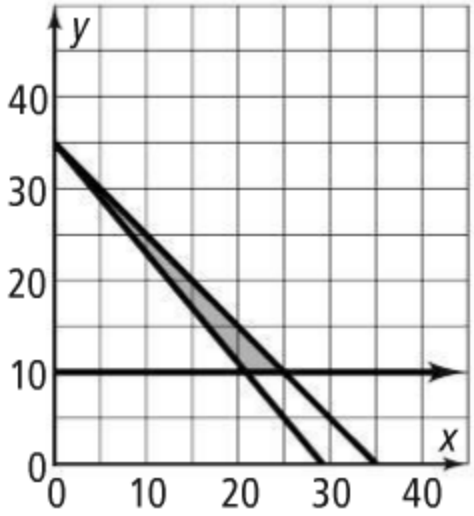
4. no

5. $y \leq x + 2,\ y < -\frac{1}{3}x$

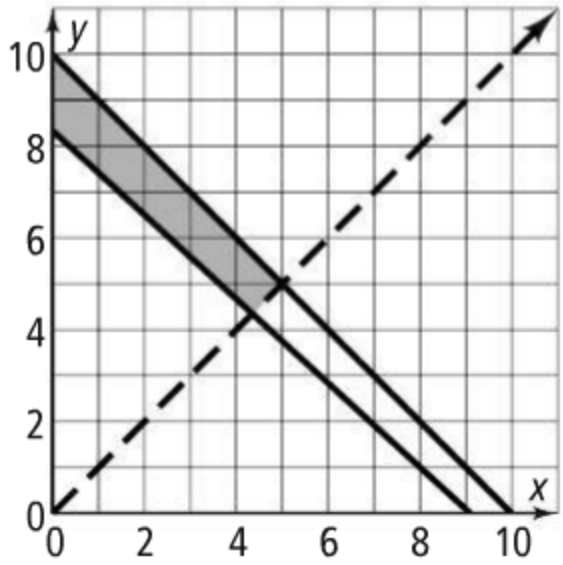
6. $x < 1,\ y < -\frac{3}{2}x + 3$

7. $y \geq 2,\ y > x + 1$

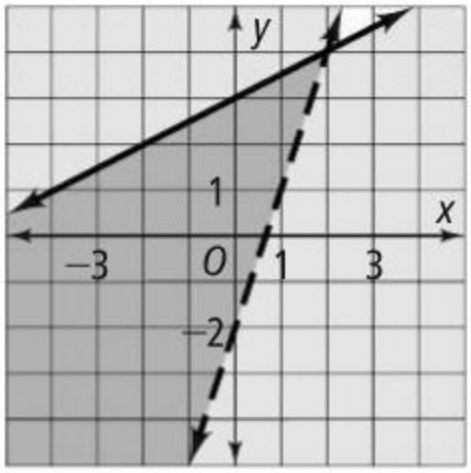
8. Let $x =$ hours worked at mowing lawns;
let $y =$ hours worked at clothing store.
$12x + 10y \geq 350$, $x + y \leq 35$, $y \geq 10$



9. Let $x =$ hours driven by slower driver;
let $y =$ hours driven by faster driver.
$55x + 60y \geq 500$, $x + y \leq 10$, $x < y$

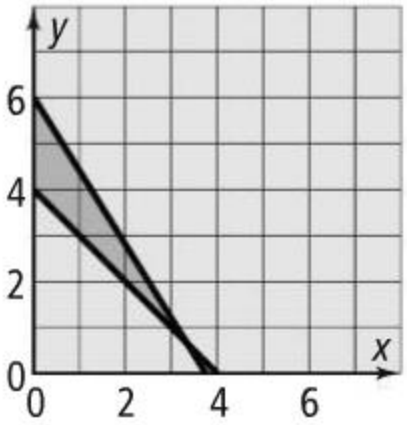


10.



11. $y \geq 3x + 3, y < -x - 2$

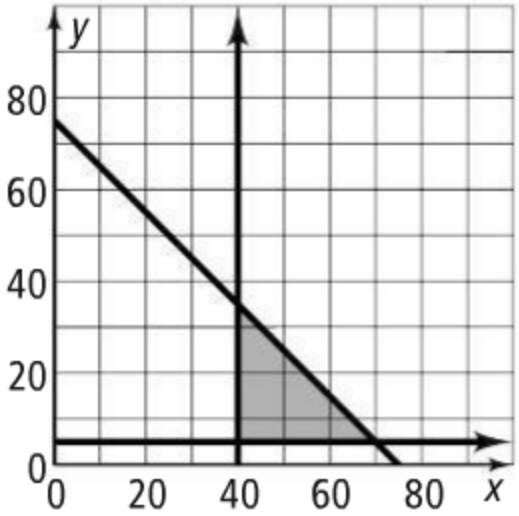
12. $4x + 2.5y \leq 15, x + y \geq 4$



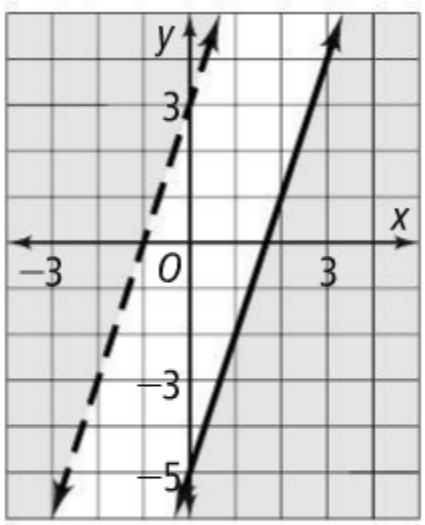
13. You can substitute the ordered pair into each inequality to make sure that it makes each true.

14. Not necessarily; as long as there is some overlap of the half-planes, then the system will have a solution.

16. Let x = length of garden in feet; let y = width of garden in feet. $2x + 2y \leq 150$, $x \geq 40$, $y \geq 5$



17. a.



b. No; they have the same slope and different y-intercepts, so they will never intersect.

c. no

d. No; there are no points that satisfy both inequalities.