Name: _____

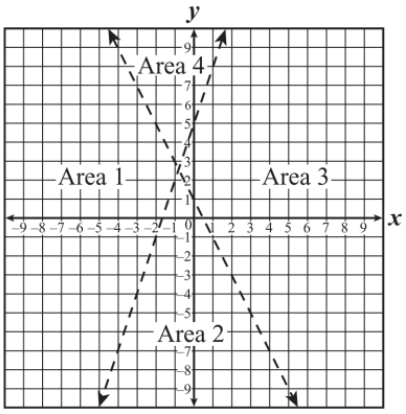
2.5.D2 – Systems of Linear Inequalities

Past due on: _____ Period: _____

1. The graph for the system of inequalities without the shading of its solution set is shown on the coordinate grid.

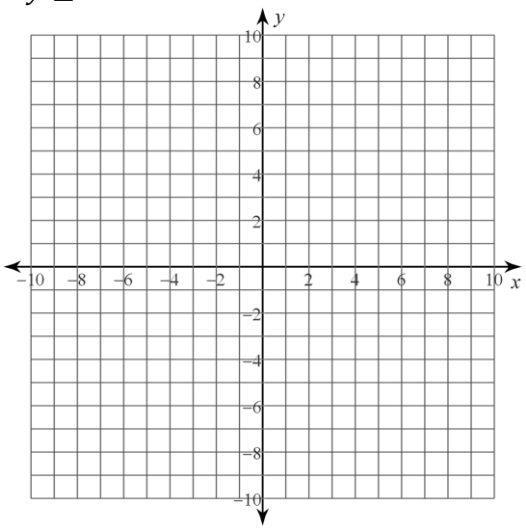
$$2x + y < 1$$
$$3x - y < -5$$

Which area should be shaded to represent the solution set of this system of inequalities?

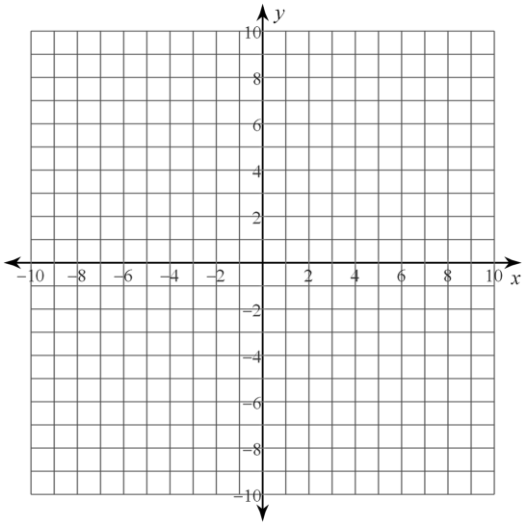


Graph the solution region to the system of linear inequalities. Find the coordinates of the vertices.

2. $y \geq x - 3$
   $y \leq 6 - 2x$
   $2x + y \geq -3$

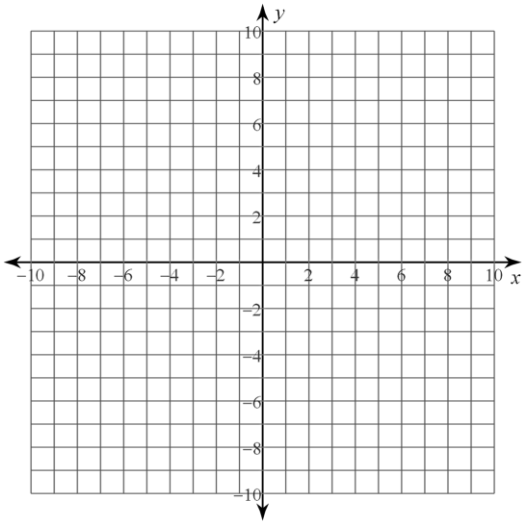


3. $x + y \leq 9$
   $x - 2y \leq 12$
   $y \leq 2x + 3$



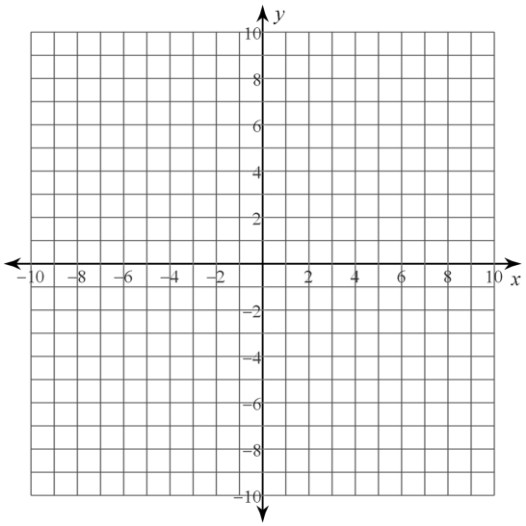
Graph the system of linear inequalities. Name the coordinates of the vertices of the feasible region. Find the maximum and minimum values of the given function for this region.

4. $x + 2y \leq 6$
   $2x - y \leq 7$
   $x \geq -2, y \geq -3$
   $f(x, y) = x - y$



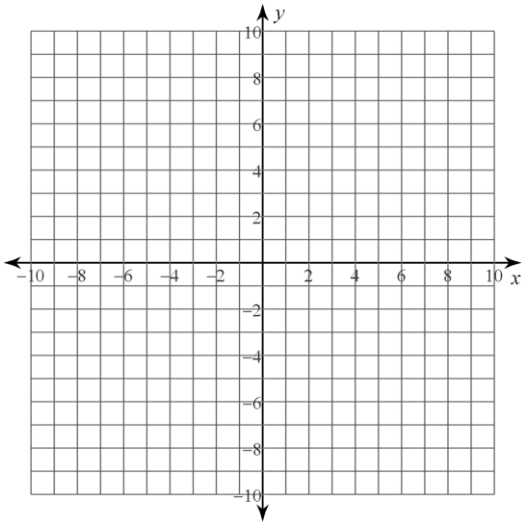
(x, y)	$f(x, y)$

5. $3y \geq -x - 21$
$y \leq -2x - 2$
$x \geq -3$
$f(x, y) = 3x + 4y$



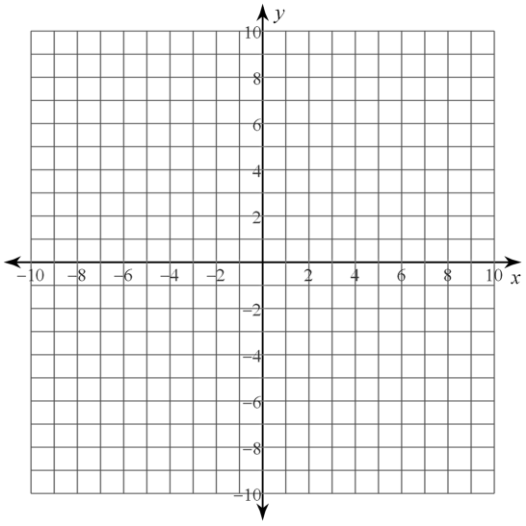
(x, y)	$f(x, y)$

6. $x + y \geq 4$
$3x - 2y \leq 12$
$x - 4y \geq -16$
$f(x, y) = x - 2y$



(x, y)	$f(x, y)$

7. $x + 2y \leq 12$
$3y \geq 5x - 21$
$y \geq -7x - 7$
$f(x, y) = 3y + x$



(x, y)	$f(x, y)$