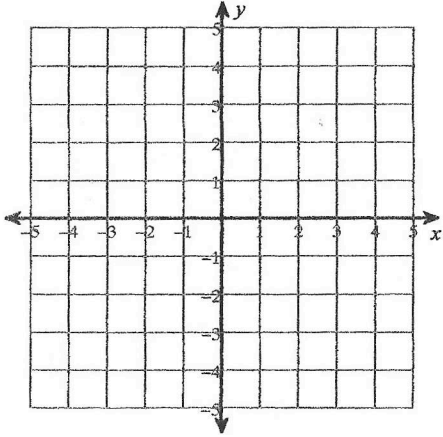


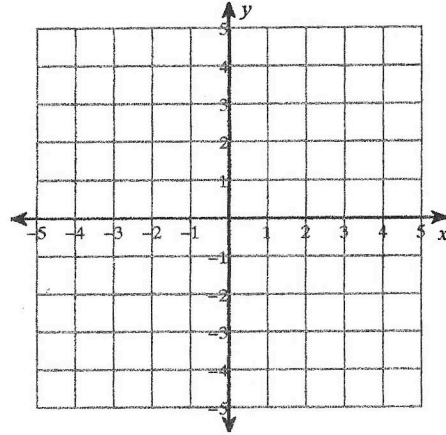
Section 3.2

Sketch the solution to each system of inequalities.

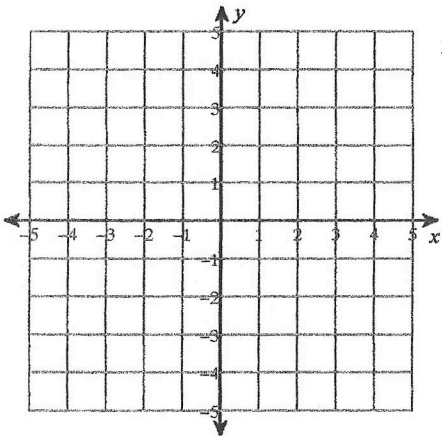
$$1) \begin{aligned} y &\leq x + 2 \\ y &< 5x - 2 \end{aligned}$$



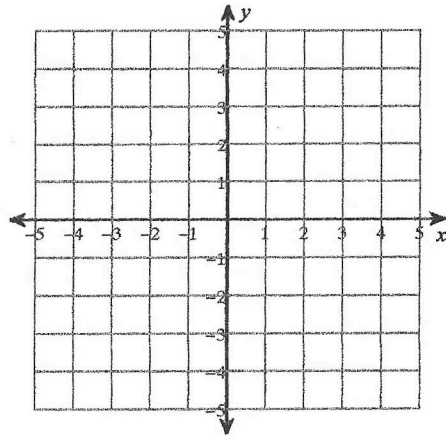
$$2) \begin{aligned} y &> -\frac{1}{2}x + 1 \\ y &> -\frac{3}{2}x - 1 \end{aligned}$$



$$3) \begin{aligned} 3x - y &< -3 \\ x - 2y &\leq 4 \end{aligned}$$

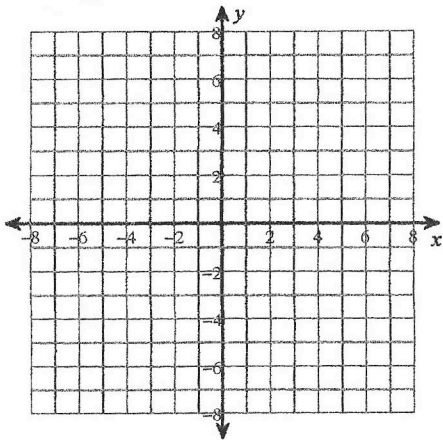


$$4) \begin{aligned} 5x + 2y &< -4 \\ x + 2y &\leq 4 \end{aligned}$$



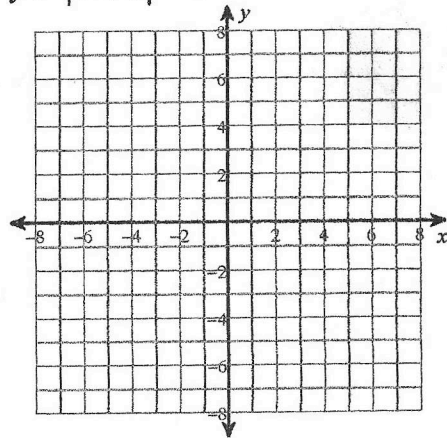
$$5) x^2 + (y+3)^2 \leq 16$$

$$y > -\frac{1}{2}x - 1$$



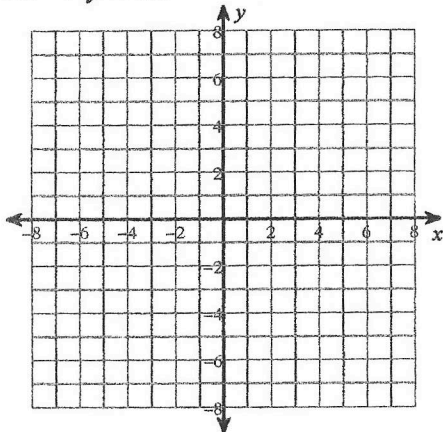
$$6) (x+2)^2 + y^2 \leq 25$$

$$y > |x+2| - 3$$



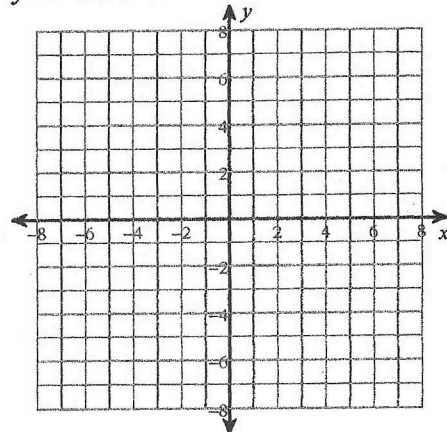
$$7) y \geq x^2$$

$$2x^2 + y \leq 12$$



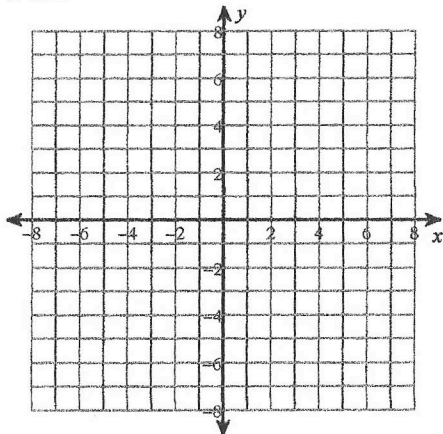
$$8) y \geq 5^x$$

$$y \leq \sqrt{x+7}$$



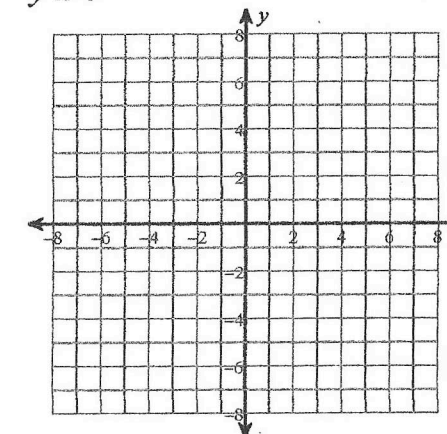
$$9) y \leq \log x$$

$$x \leq 3$$



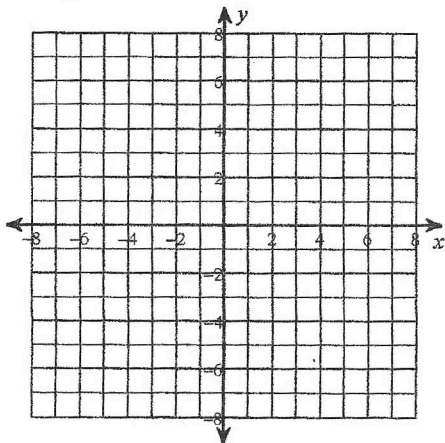
$$10) y > 2^x$$

$$y \leq 4$$



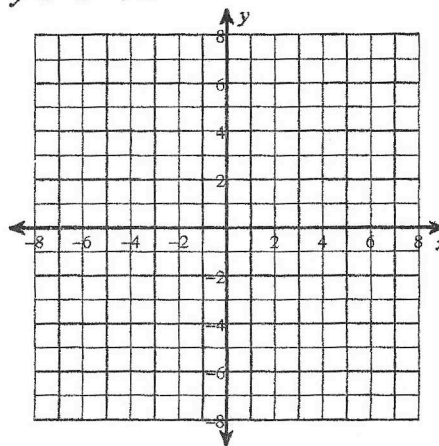
$$11) y > x^3$$

$$y \leq \frac{1}{2}x + 6$$



$$12) y \geq 3^x$$

$$y \leq -3^x + 4$$

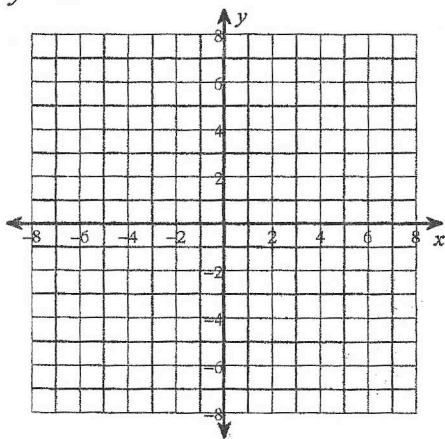


Graph each system of inequalities. Name the coordinates of the vertices of the region formed by each system.

$$13) y \leq 2x + 1$$

$$x \leq 4$$

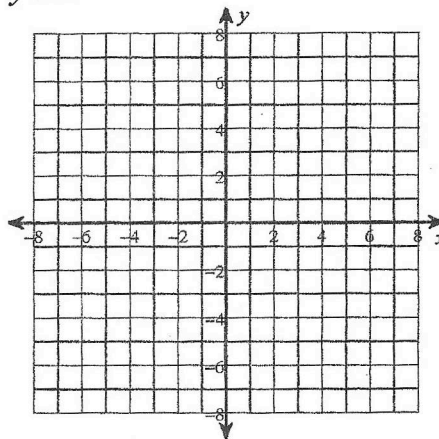
$$y \geq 1$$



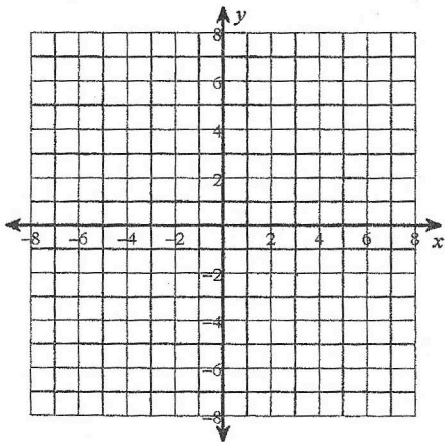
$$14) y \leq x + 3$$

$$1 \leq x \leq 5$$

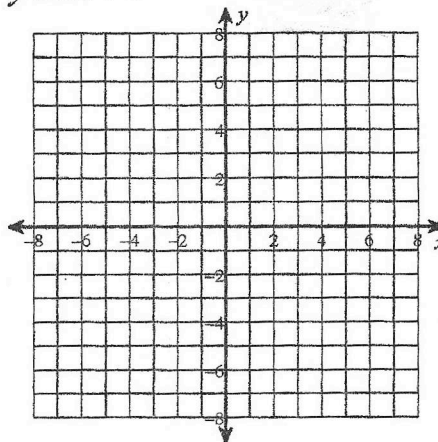
$$y \geq 2$$



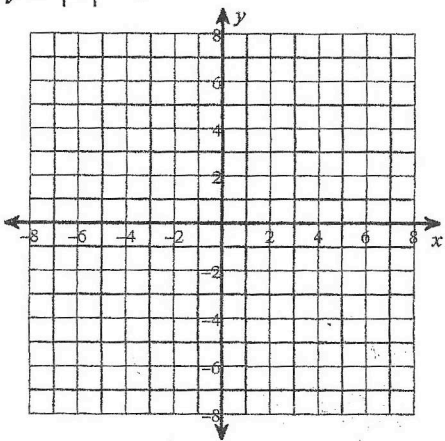
$$15) \begin{aligned} x + y &\geq 2 \\ y &\geq \frac{3}{2}x - 3 \\ y &\leq \frac{1}{4}x + 2 \end{aligned}$$



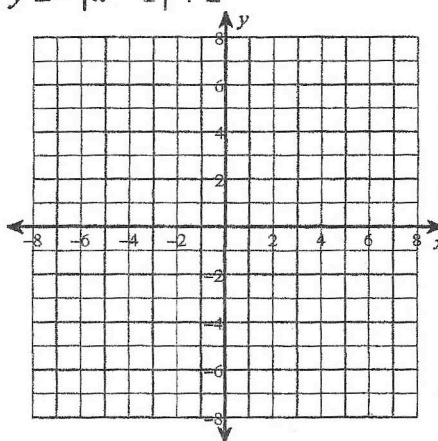
$$16) \begin{aligned} y &\geq x - 3 \\ 2x + y &\leq 6 \\ y &\leq 3x + 1 \end{aligned}$$



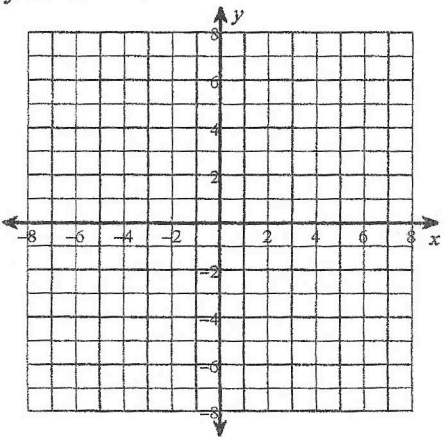
$$17) \begin{aligned} x + 3y &\leq 3 \\ y &\geq |x| - 3 \end{aligned}$$



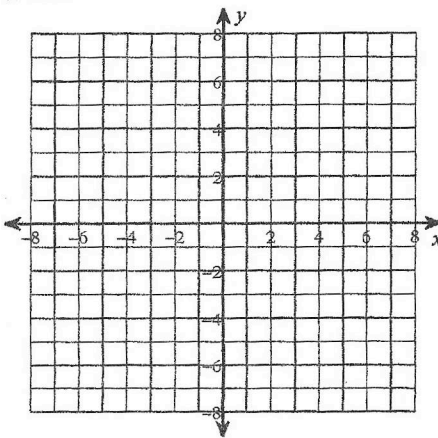
$$18) \begin{aligned} y &\geq |x - 1| - 2 \\ y &\leq -|x - 1| + 2 \end{aligned}$$



$$19) \begin{aligned} y &\geq x^2 - 2 \\ y &\leq -x^2 + 6 \end{aligned}$$



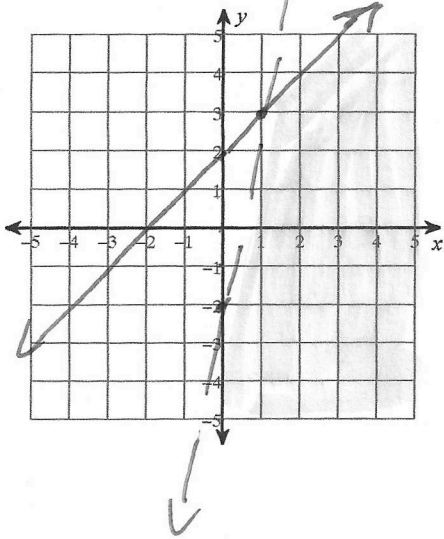
$$20) \begin{aligned} x^2 + y^2 &\leq 25 \\ 3x + 4y &\geq 0 \\ x &\leq 0 \end{aligned}$$



Section 3.2

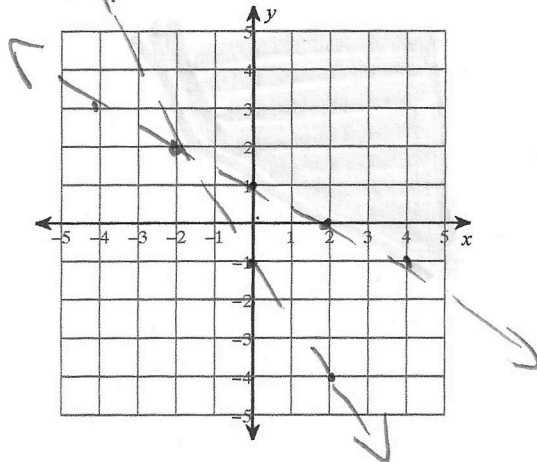
Sketch the solution to each system of inequalities.

1) $y \leq x + 2$
 $y < 5x - 2$

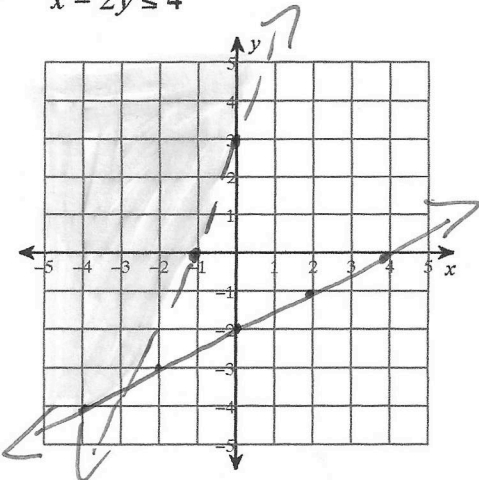


2) $y > -\frac{1}{2}x + 1$

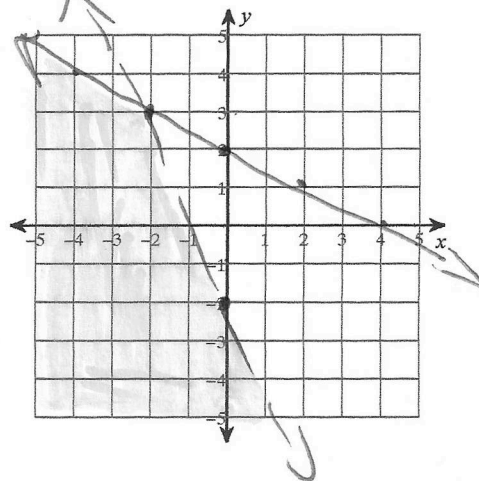
$y > -\frac{3}{2}x - 1$



3) $3x - y < -3$
 $x - 2y \leq 4$

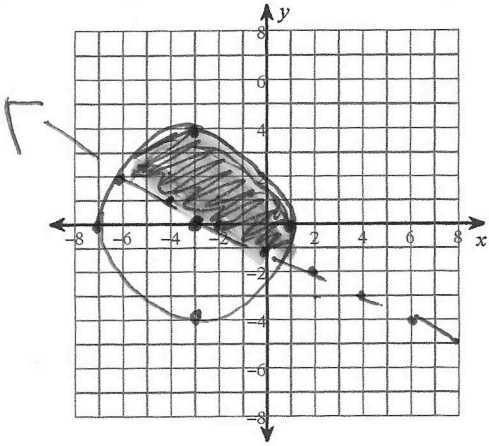


4) $5x + 2y < -4$
 $x + 2y \leq 4$



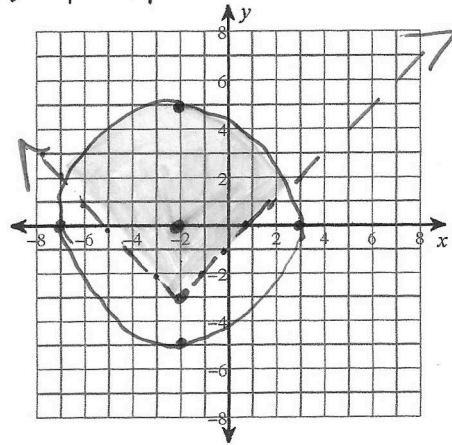
$$5) x^2 + (y+3)^2 \leq 16$$

$$y > -\frac{1}{2}x - 1$$



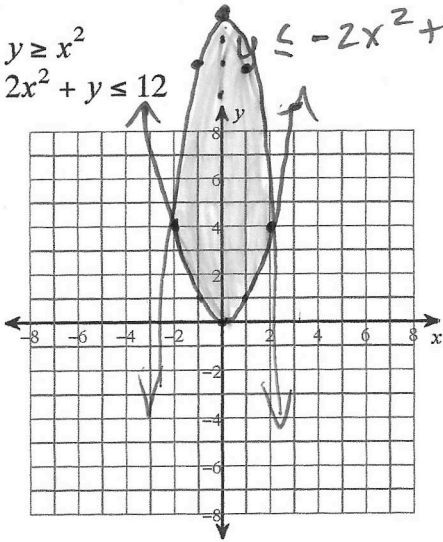
$$6) (x+2)^2 + y^2 \leq 25$$

$$y > |x+2| - 3$$



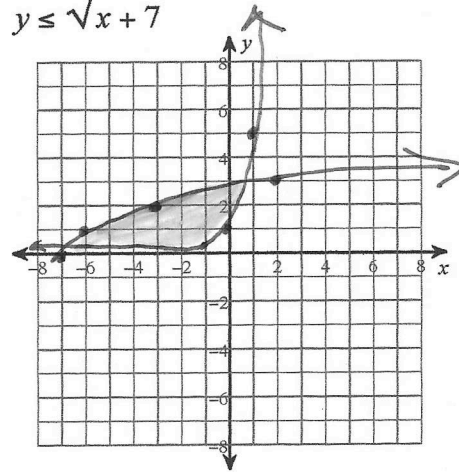
$$7) y \geq x^2$$

$$2x^2 + y \leq 12$$



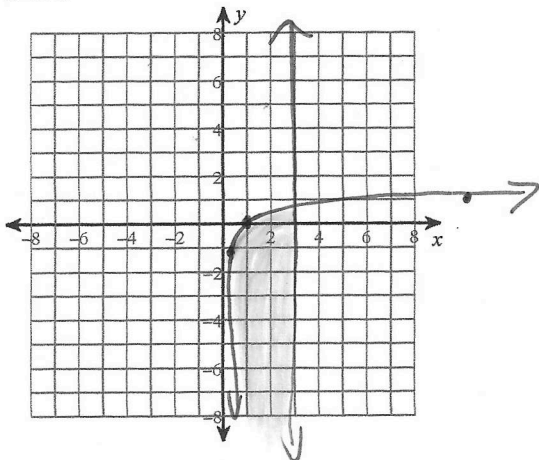
$$8) y \geq 5^x$$

$$y \leq \sqrt{x+7}$$



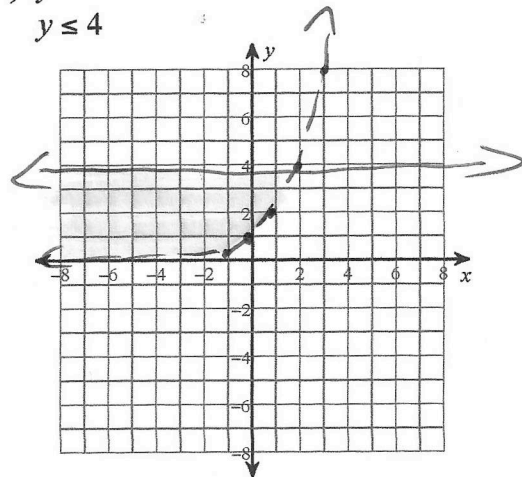
$$9) y \leq \log x$$

$$x \leq 3$$



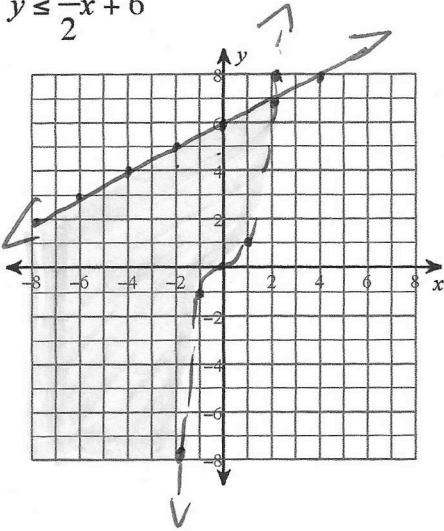
$$10) y > 2^x$$

$$y \leq 4$$



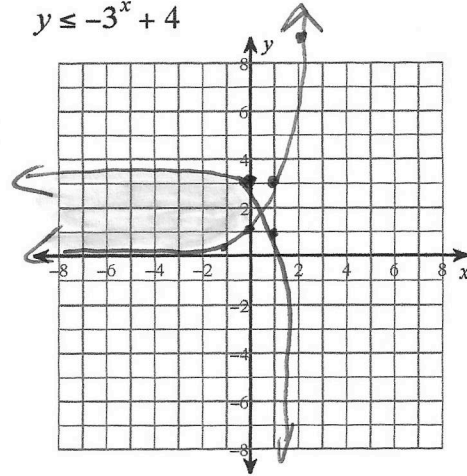
11) $y > x^3$

$y \leq \frac{1}{2}x + 6$



12) $y \geq 3^x$

$y \leq -3^x + 4$

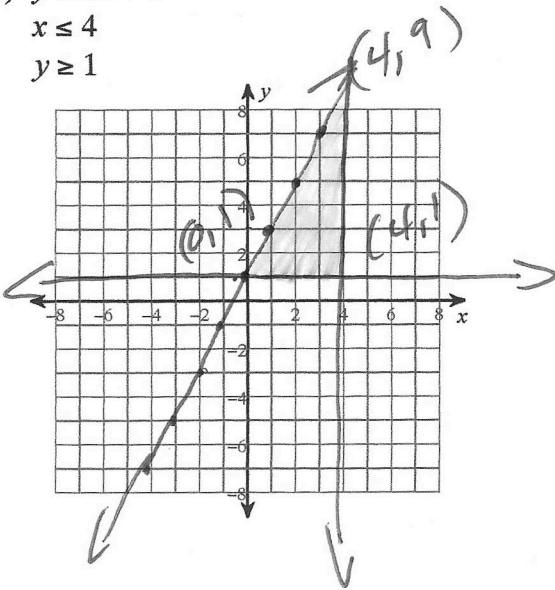


Graph each system of inequalities. Name the coordinates of the vertices of the region formed by each system.

13) $y \leq 2x + 1$

$x \leq 4$

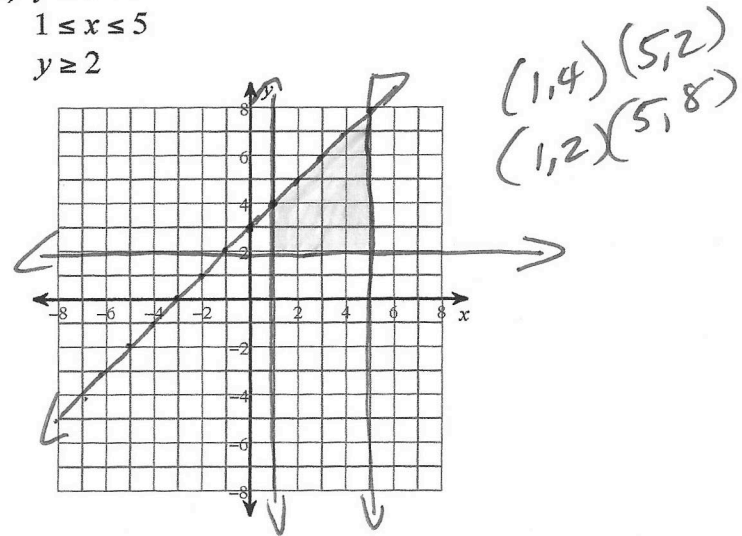
$y \geq 1$



14) $y \leq x + 3$

$1 \leq x \leq 5$

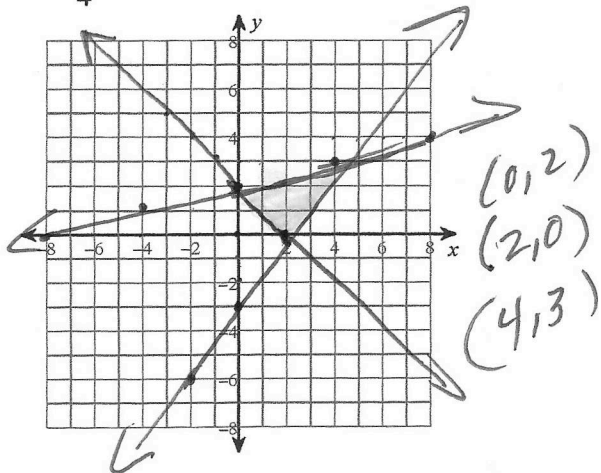
$y \geq 2$



15) $x + y \geq 2$

$y \geq \frac{3}{2}x - 3$

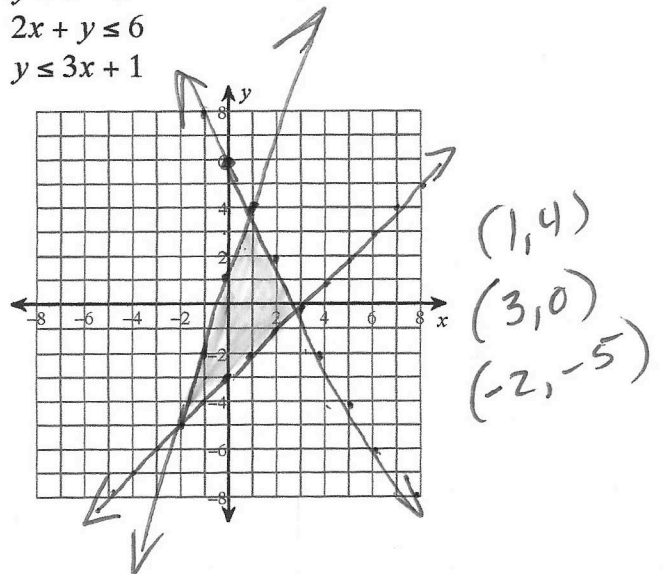
$y \leq \frac{1}{4}x + 2$



16) $y \geq x - 3$

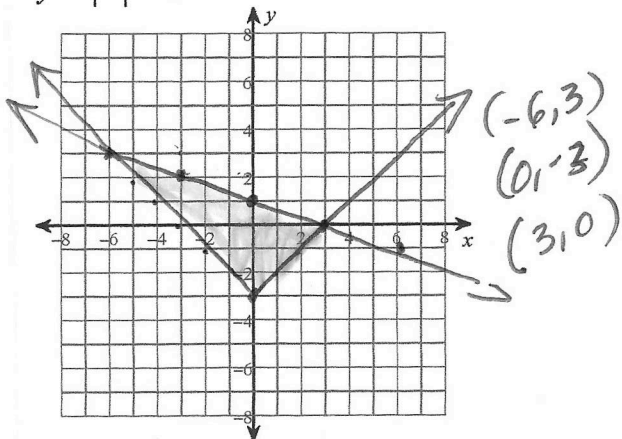
$2x + y \leq 6$

$y \leq 3x + 1$



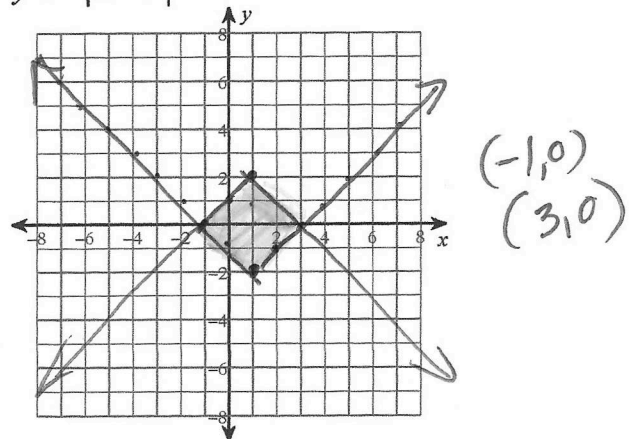
17) $x + 3y \leq 3$

$y \geq |x| - 3$



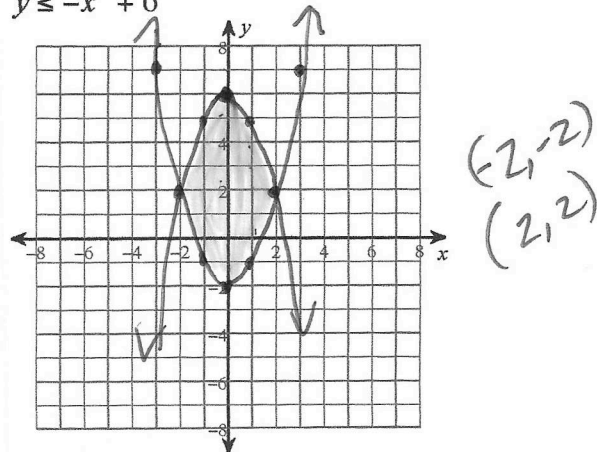
18) $y \geq |x - 1| - 2$

$y \leq -|x - 1| + 2$



19) $y \geq x^2 - 2$

$y \leq -x^2 + 6$



20) $x^2 + y^2 \leq 25$

$3x + 4y \geq 0$

$x \leq 0$

