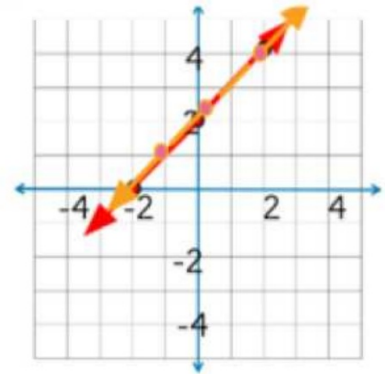
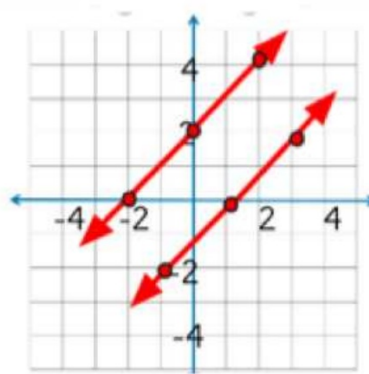
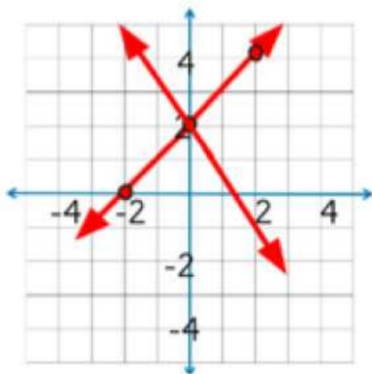


## 2x2 Systems of Equations & Inequalities

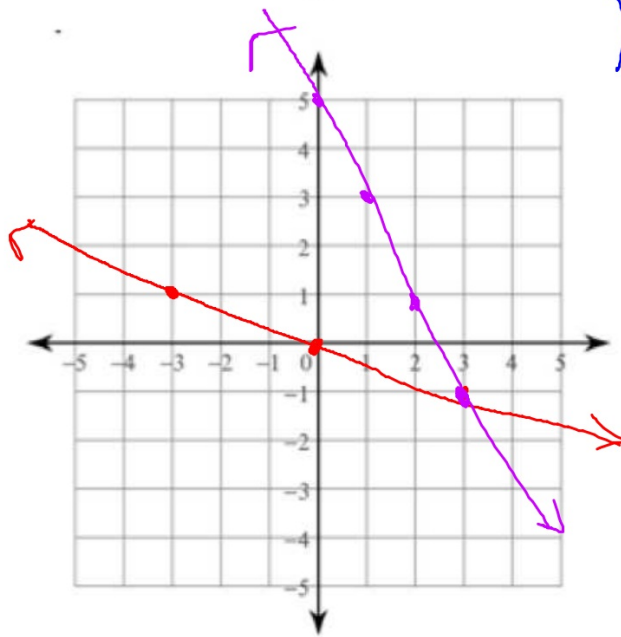


\*See printout.

HW:

ex: Solve the system graphically.

a)  $x + 3y = 0 \longrightarrow y = -\frac{1}{3}x$   
 $2x + y = 5$   
 $y = -2x + 5$



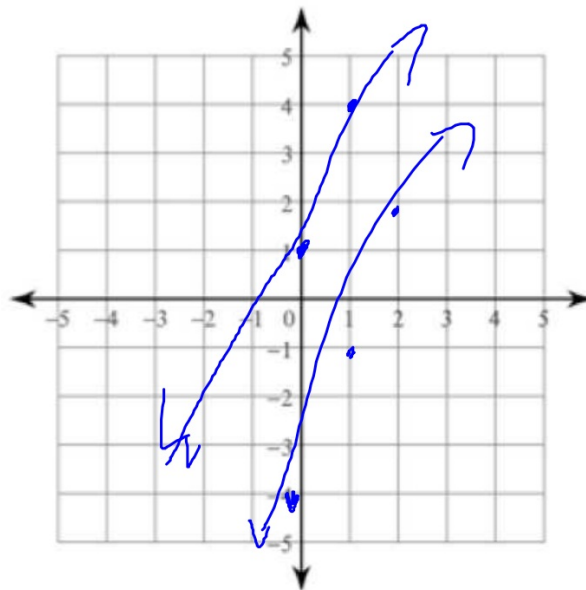
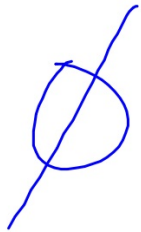
$(3, -1)$

ex: Solve the system graphically.

b)

$$y = 3x + 1$$

$$y = 3x - 4$$



ex: Solve the system algebraically by substitution.

$$x + 3y = 0$$

$$2x + y = 5$$

$$x = -3y$$

$$2(-3y) + y = 5$$

$$-5y = 5$$

$$y = -1$$

$$x = 3$$

$$(3, -1)$$

ex: Solve the system algebraically by elimination.

$$\begin{array}{r} - 2(x + 3y = 0) \\ 2x + y = 5 \\ + \quad - 2x - 6y = 0 \\ \hline -5y = 5 \\ y = -1 \end{array}$$
$$\begin{array}{r} 2x + y = 5 \\ 2x - 1 = 5 \\ x = 3 \end{array}$$

$(3, -1)$

$$\begin{array}{l} 2 (2x - 3y = 10) \\ 3 (7x + 2y = 5) \end{array} |$$

$$\begin{array}{l} 4x - 6y = 20 \\ 21x + 6y = 15 \end{array} \quad x = \frac{7}{5}$$

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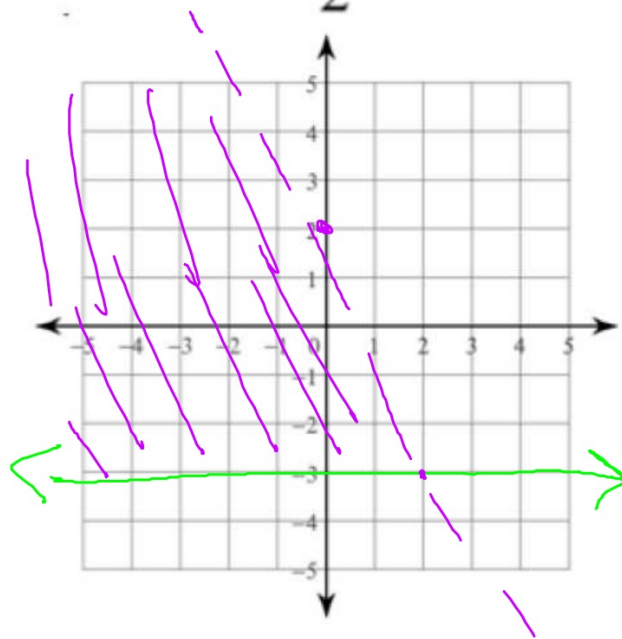
$$25x = 35$$

ex: Solve the system graphically.

a)

$$y \geq -3$$

$$y < -\frac{5}{2}x + 2$$



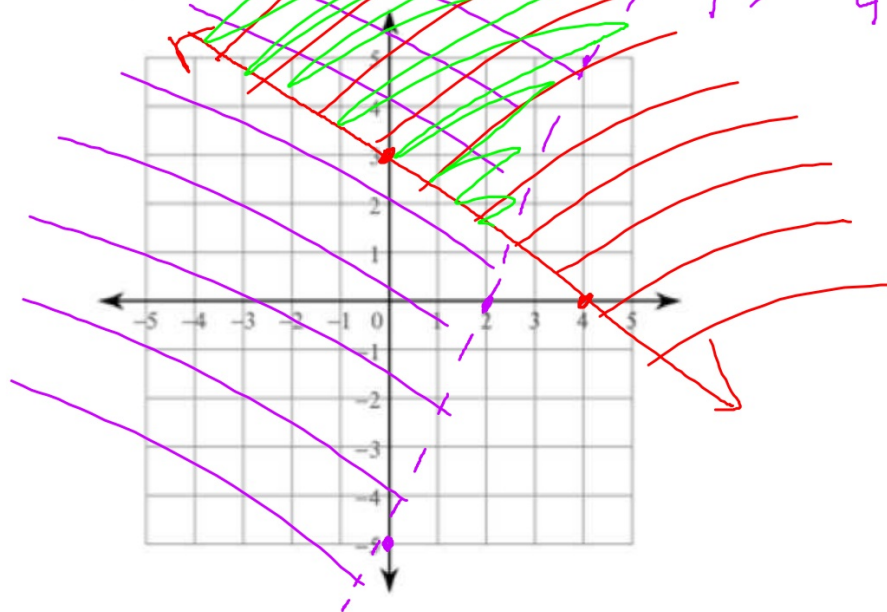


ex: Solve the system graphically.

b)

$$5x - 2y < 10 \rightarrow y > \frac{5}{2}x - 5$$

$$3x + 4y \geq 12 \rightarrow y \geq -\frac{3}{4}x + 3$$

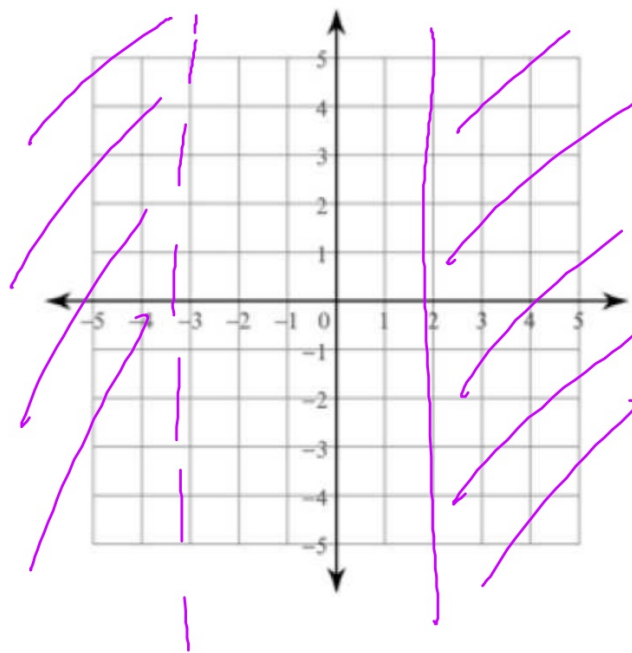


ex: Solve the system graphically.

c)

$$x < -3$$

$$x \geq 2$$



never  
overlap  
 $\emptyset$

ex: Solve the system graphically.

d)

$$1 < y < 2$$

$$y \leq 3x + 4$$

