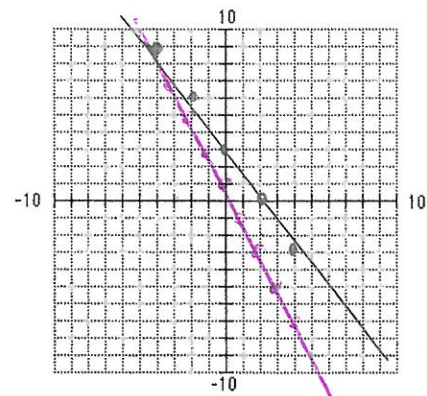


1. Solve the system below by graphing it by hand (graph at right)

$$\begin{cases} 6x + 4y = 12 \\ y = -2x + 1 \end{cases}$$

$\frac{12 - 6x}{4} = y$ $3 - \frac{3}{2}x = y$
 (purple) $9 = -2(-4) + 1 \checkmark$
 $6(-4) + 4(9) = 12 \checkmark$
 $(-4, 9)$



2. Solve the system below by graphing on a calculator.

$$\begin{cases} 7x + 5y = 1 \\ x - y = 11 \end{cases}$$

$\frac{1 - 7x}{5} = y$ 2nd Trace intersect
 $y = -11 + x$ $(4.67, -6.33)$

#3-4, Solve each system by using substitution

3. $\begin{cases} x = 3y + 5 \\ 2x - 4y = 12 \end{cases}$

$2y = 2$
 $y = 1$
 $x = 3(1) + 5$
 $x = 8$
 $(8, 1)$

4. $\begin{cases} a + b = 9 \\ 2a - 3b = 8 \end{cases}$

$a = 9 - b$
 $2(9 - b) - 3b = 8$
 $18 - 2b - 3b = 8$
 $-5b = -10$
 $b = 2$
 $a = 9 - 2$
 $a = 7$
 $(7, 2)$

#5-6, Solve each system with the elimination or Adding/Subtracting method.

5. $\begin{cases} 3x - 4y = -5 \\ -5x + 2y = 6 \end{cases}$

add these
 $3(-1) - 4y = -5$
 $-4y = -2$
 $y = \frac{1}{2}$
 $x = -1$

6. $\begin{cases} 5x - 2y = 11 \\ 15x - 6y = -20 \end{cases}$

$-15x + 6y = -33$
 $0 = -53$
 no solution

#7-9, Solve each system using any method you choose.

7. $\begin{cases} 3m - n = 7 \\ 2m - 3n = 1 \end{cases}$

$3(2.86) - n = 7$
 $n = 1.57$
 $m = 2.86$

8. Two small pitchers and one large pitcher can hold 24 cups of water. One large pitcher minus one small pitcher constitutes 7.5 cups of water. How many cups can each pitcher hold?

$\begin{cases} 2S + 1L = 24 \\ L - S = 7.5 \end{cases}$

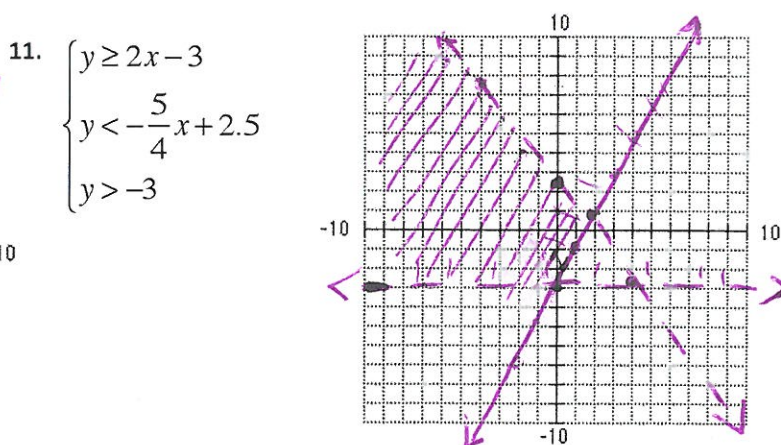
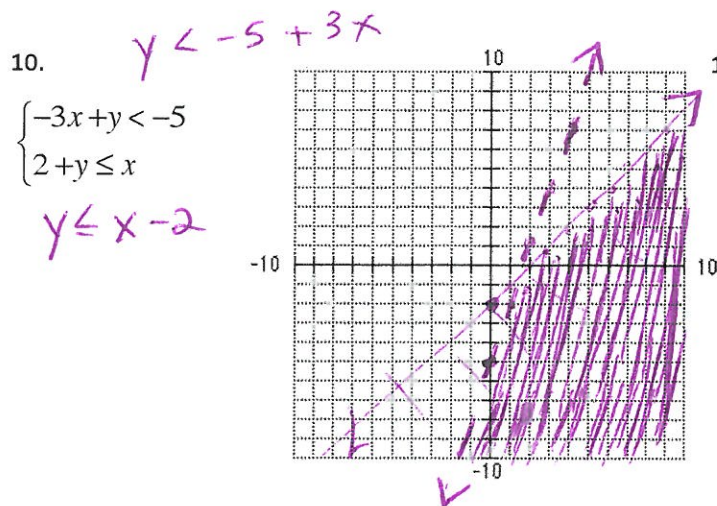
$L = 7.5 + S$
 $2S + (7.5 + S) = 24$
 $3S + 7.5 = 24$
 $S = 5.5$
 $L = 13$
 Large = 13 cups
 Small = 5.5 cups

9. The state fair is a popular field trip destination. This year the freshman class at Farmington High School and the freshman class at Hay High School both planned trips there. Farmington High rented and filled 8 vans and 8 buses with 240 students. Hay High School rented and filled 4 vans and 1 bus with 54 students. Every van had the same number of students in it as did the buses. Find the number of students in each van and in each bus.

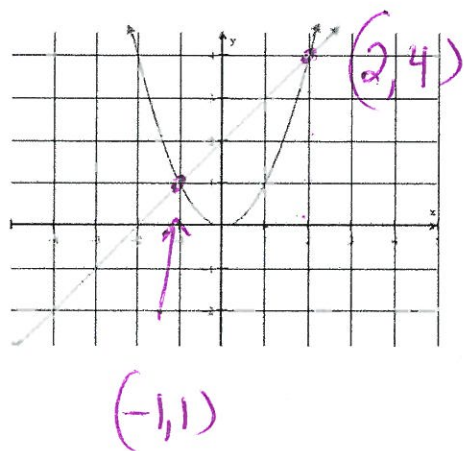
$\begin{cases} 8v + 8b = 240 \\ 4v + b = 54 \end{cases}$

$-8v - 2b = -108$
 $6b = 132$
 $b = 22$
 $\text{bus} = 22 \text{ students}$
 $\text{van} = 8 \text{ students}$

#10-11, Graph the solutions to the systems of inequalities.



12 Find the solutions to the system graphed below



13 Use your graphing calculator to find the solutions to the

system: $\begin{cases} y = x - 5 \\ y = -x^2 + 1 \end{cases}$

$(2, -3)$
 $(-3, -8)$

2nd Trace
 Intersect
 (get close
 to intersection
 @ "guess")

