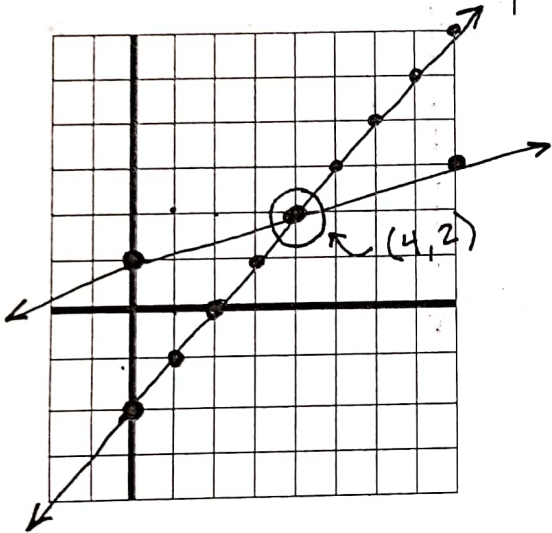


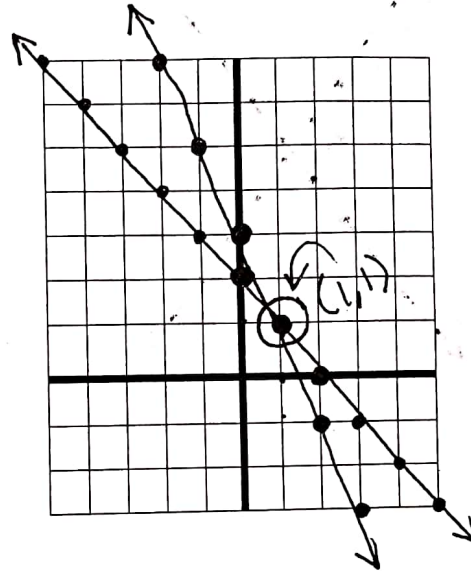
Solve each system by graphing.

1. $2x - 2y = 4$
 $y = 1/4x + 1$ ✓

$y = mx + b$
 $2x - 2y = 4$
 $-2x$ $-2x$
 $-\frac{2y}{-2} = \frac{-2x + 4}{-2} \frac{-2x}{-2}$
 $y = 1x - 2$ ✓



2. $y = -x + 2$ ✓
 $2x + y = 3$
 $-2x$ $-2x$
 $y = -2x + 3$



Solve each system by substitution

3. $y = 2x - 7$ ✓
 $x + y = 5$ ✓
 $x + (2x - 7) = 5$
 $3x - 7 = 5$
 $+7$ $+7$
 $3x = 12$
 $\frac{3x}{3} = \frac{12}{3}$
 $x = 4$ ✓
 $y = 2(4) - 7$
 $y = 8 - 7$
 $y = 1$ ✓
(4, 1)

4. $x = 3y + 5$ ✓
 $2x + 3y = -8$
 $2(3y + 5) + 3y = -8$
 $6y + 10 + 3y = -8$
 $9y + 10 = -8$
 -10 -10
 $9y = -18$
 $\frac{9y}{9} = \frac{-18}{9}$
 $y = -2$ ✓
 $x = 3(-2) + 5$
 $x = -6 + 5$
 $x = -1$ ✓
(-1, -2)

Solve each system by elimination

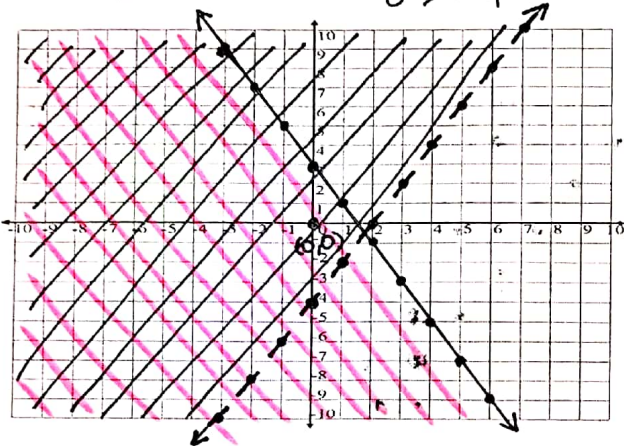
5. $2x - 3y = -21$
 $+ 4x + 3y = 3$
 $\frac{6x}{6} = \frac{-18}{6}$
 $x = -3$ ✓
 $4(-3) + 3y = 3$
 $-12 + 3y = 3$
 $+12$ $+12$
 $3y = 15$
 $\frac{3y}{3} = \frac{15}{3}$
 $y = 5$ ✓
(-3, 5)

6. $3x + 4y = 4$
 $3(x - 2y) = 8$
 $3x + 4y = 4$
 $- 3x - 6y = 8$
 $\frac{10y}{10} = \frac{-20}{10}$
 $y = -2$ ✓
 $3x + 4(-2) = 4$
 $3x - 8 = 4$
 $+8$ $+8$
 $3x = 12$
 $\frac{3x}{3} = \frac{12}{3}$
 $x = 4$ ✓
(4, -2)

Graph the system of inequalities

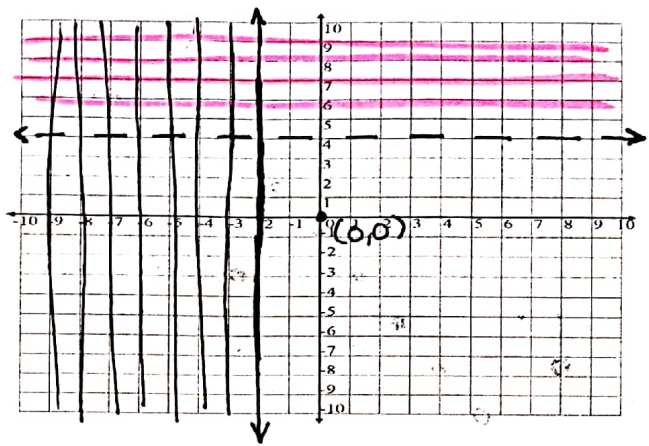
7. $y \leq -2x + 3$
 $y > 2x - 4$

$(0) \leq -2(0) + 3$
 $0 \leq 3 \checkmark$ True
 $(0) > 2(0) - 4$
 $0 > -4$



8. $y > 4$
 $x \leq -2$

$0 > 4$ X Not True
 $0 \leq -2$ X Not True



Identify the variables, write equations and then solve using the method of your choice.

You are running a concession stand at a basketball game. You are selling hot dogs and sodas. Each hot dog costs \$1.50 and each soda costs \$0.50. At the end of the night you made a total of \$78.50. You sold a total of 87 hot dogs and sodas combined. You must report the number of hot dogs sold and the number of sodas sold. How many hot dogs were sold and how many sodas were sold?

how many
 $x =$ hot dogs sell
 how many
 $y =$ sodas sell

$1.50x + .50y = 78.50$

$x + y = 87$

Substitution

$1.50x + .50y = 78.50$ $x + y = 87$
 $1.50(-y + 87) + .50y = 78.50$ $x = -y + 87$
 $-1.50y + 130.50 + .50y = 78.50$
 $-y + 130.50 = 78.50$ $x + (52) = 87$
 $-130.50 \quad -130.50$ $-52 \quad -52$
 $-y = -52$ $x = 35$
 $y = 52$ $(35, 52)$

Elimination

$1.50x + .50y = 78.50$ $x + (52) = 87$
 $1.50(x + y = 87)$ $-52 \quad -52$
 $1.50x + .50y = 78.50$ $x = 35$
 $-1.50x + 1.50y = 130.50$
 $y = -52$
 $y = 52$ $(35, 52)$