

## Module 6 Conformation Test Review

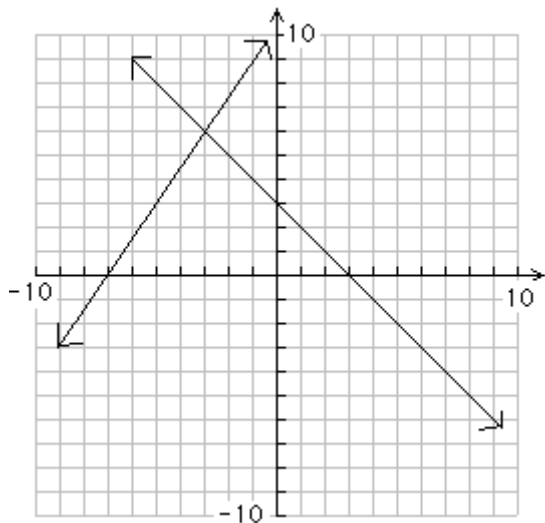
1. You are offered two summer jobs. The first job, camp counselor pays \$200 up front and \$8.00 per hour. The second job, a cashier at a sporting goods store, pays \$10 per hour. The following system of equations models the total pay in dollars,  $y$ , in terms of the number of hours worked  $x$ .

$$y = 8x + 200$$

$$y = 10x$$

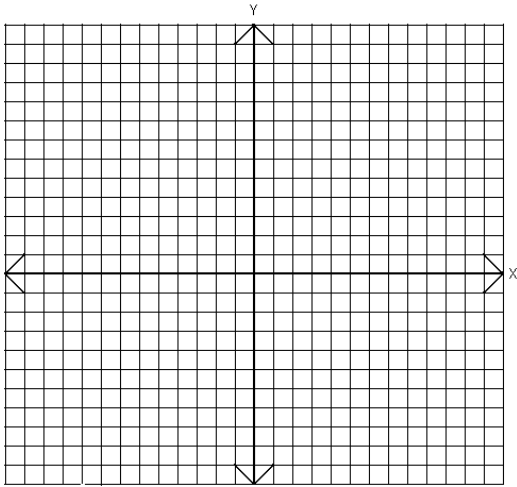
Algebraically determine whether  $(100, 1000)$  is the solution to this system of equations and, if it is the solution, explain what this solution means in context of the problem situation.

2. State the solution of the system graphed below:  $\begin{cases} -6x + 4y = 42 \\ x + y = 3 \end{cases}$

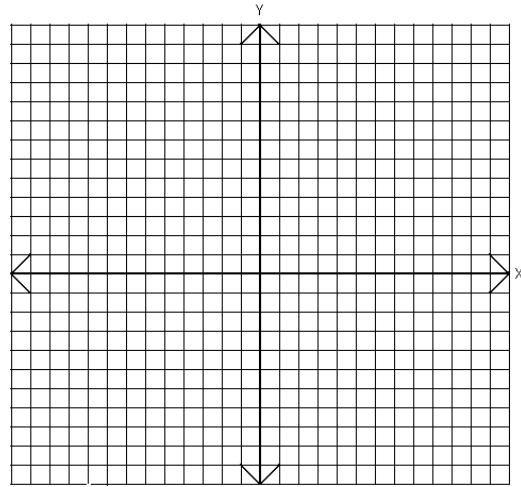


3. Graph the following systems of equations. Label the point of intersection.

a)  $y = 2x + 6$   
 $y = -x - 3$



b)  $x + y = 2$   
 $2x - y = 10$



4. A school sold 1330 total tickets to a basketball game. Adult tickets sold for \$8 each, while student tickets were \$5 each. Ticket sales totaled \$8300 for the game. How many student tickets were sold?

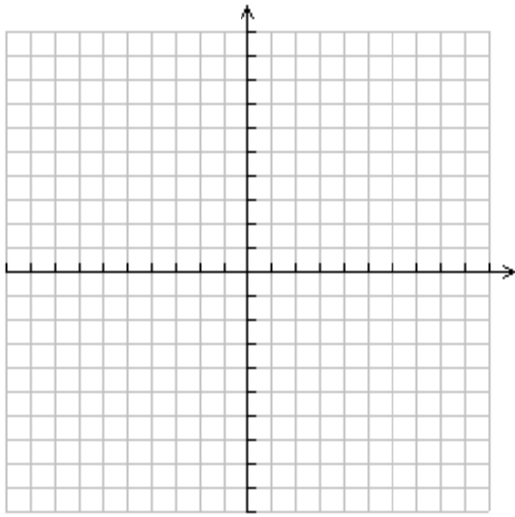
5. Solve the systems of equations.

a)  $4x - 7y = 10$   
 $3x + 2y = -7$

b)  $3x - 5y = 3$   
 $4x + 5y = 4$

c)  $9x - 4y = -12$   
 $y = \frac{1}{4}x - 3$

6. Graph the system of inequalities  $\begin{cases} 2x - y \geq 5 \\ 8x + 8y > 32 \end{cases}$

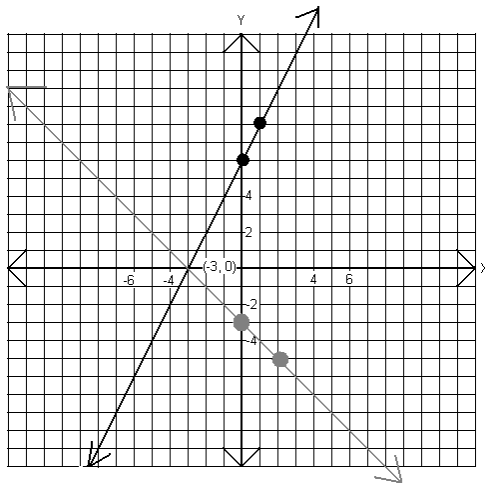


7. Samantha receives a \$100 gift certificate to an online store that sells CDs and DVDs. Each CD sells for \$9 and each DVD sells for \$12. The store will ship the items free as long as Samantha orders more than 7 items.
- Write a system of linear inequalities in two variables that represents this problem situation where  $x$  is the number of CDs and  $y$  is the number of DVDs Samantha can buy with her gift certificate and get free shipping.
  - Determine whether or not  $(5,4)$  is a solution to the system of inequalities you wrote. Use a complete sentence to explain your answer.

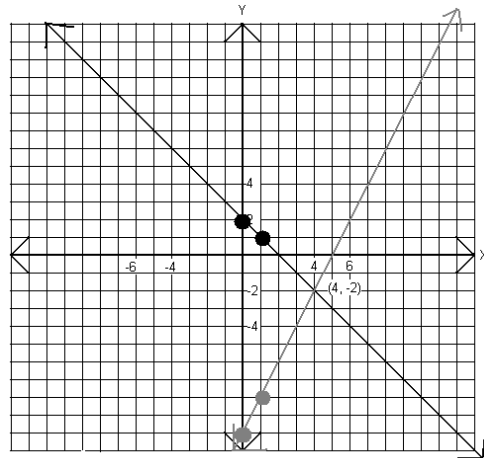
1. Yes, it is a solution. When you work 100 hours at either job, your pay would be \$1000.

2. (-3, 6)

3. a)



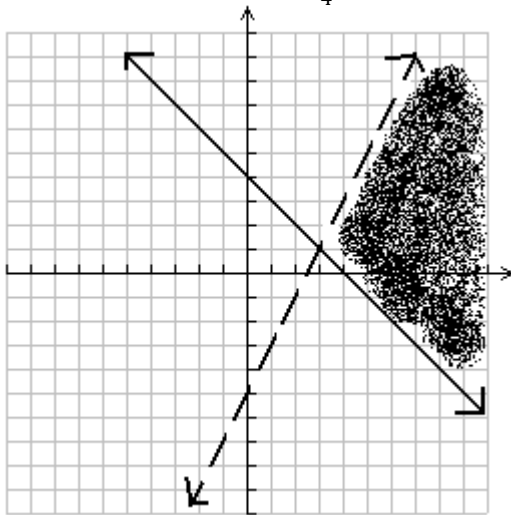
b)



4. 780 student tickets were sold.

5. a) (-1, -2) b) (1, 0) c)  $(-3, -\frac{15}{4})$

6.



7a)  $x + y > 7$

b) yes

$9x + 12y \leq 100$