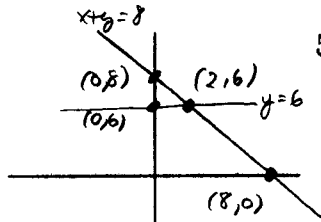


**P-14** Find the intersection point of each of the following pairs of lines. Be sure to follow the method used in the example problem. Sketch each pair of lines.

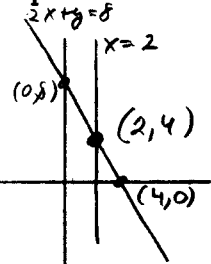
1. 
$$\begin{array}{r} x + y = 8 \\ y = 6 \\ \hline x = 2 \end{array}$$

intersection point is (2, 6)



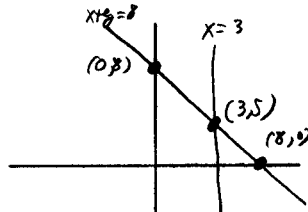
5. 
$$\begin{array}{r} 2x + y = 8 \\ 2x = 4 \\ \hline y = 4 \end{array}$$

int. pt. is (2, 4)



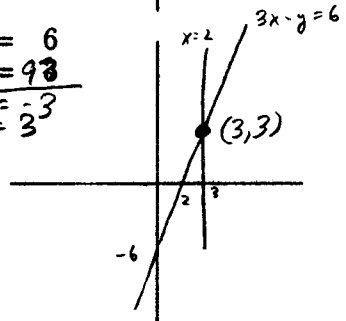
2. 
$$\begin{array}{r} x + y = 8 \\ x = 3 \\ \hline y = 5 \end{array}$$

int. pt. is (3, 5)



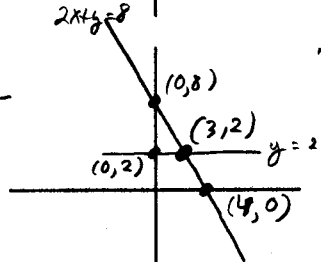
6. 
$$\begin{array}{r} 3x - y = 6 \\ 3x = 9 \\ \hline -y = -3 \\ y = 3 \end{array}$$

int. pt. is (3, 3)



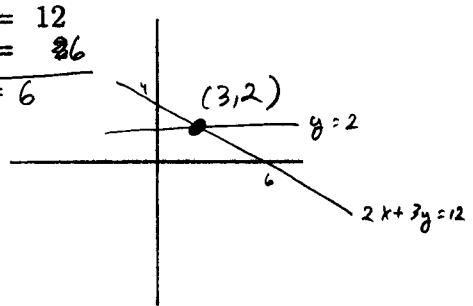
3. 
$$\begin{array}{r} 2x + y = 8 \\ y = 2 \\ \hline 2x = 6 \\ x = 3 \end{array}$$

int. pt. is (3, 2)



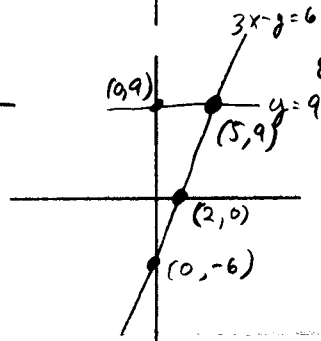
7. 
$$\begin{array}{r} 2x + 3y = 12 \\ 3y = 6 \\ \hline 2x = 6 \\ x = 3 \end{array}$$

int. pt. is (3, 2)



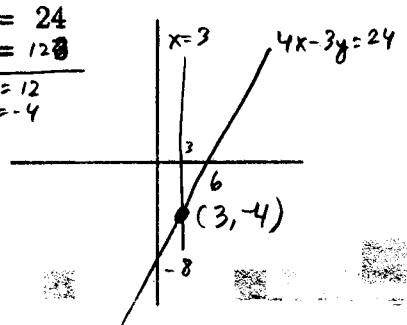
4. 
$$\begin{array}{r} 3x - y = 6 \\ y = 9 \\ \hline 3x = 15 \\ x = 5 \end{array}$$

int. pt. is (5, 9)



8. 
$$\begin{array}{r} 4x - 3y = 24 \\ 4x = 12 \\ \hline -3y = -12 \\ y = 4 \end{array}$$

int. pt. is (3, -4)



John's Fine Furniture Shop makes tables and chairs. John employs two skilled craftsmen to hand finish each piece. Each of them works a regular forty hour week. Each table requires five hours of hand finishing while each chair needs only two hours.

9. Let  $x$  stand for the number of tables made each week and let  $y$  stand for the number of chairs. Find an algebraic expression relating the number of tables and chairs made to the number of hours that the craftsmen work.

$5x + 2y = 80$

time making tables      time making chairs

10. If ten tables are made, how many chairs are made that week?

$x = 10$

$$\begin{array}{r} 5x + 2y = 80 \\ 5x = 50 \\ \hline 2y = 30 \\ y = 15 \end{array}$$

15 chairs