

**P-8** For each equation, find the  $y$ -intercept by finding the  $y$ -value that corresponds to an  $x$ -value of zero and find the  $x$ -intercept by finding the  $x$ -value that corresponds to a  $y$ -value of zero. Be sure to write your answers as points  $(0, y)$  and  $(x, 0)$ .

1.  $x + y = 1$

$(0, 1)$  and  $(1, 0)$

if  $x=0$  then  $y=1$       if  $y=0$  then  $x=1$

2.  $2x - y = 4$

$(0, -4)$  and  $(2, 0)$

if  $x=0$  then  $-y=4$       if  $y=0$  then  $2x=4$

3.  $-3x + 2y = 6$

$(0, 3)$  and  $(-2, 0)$

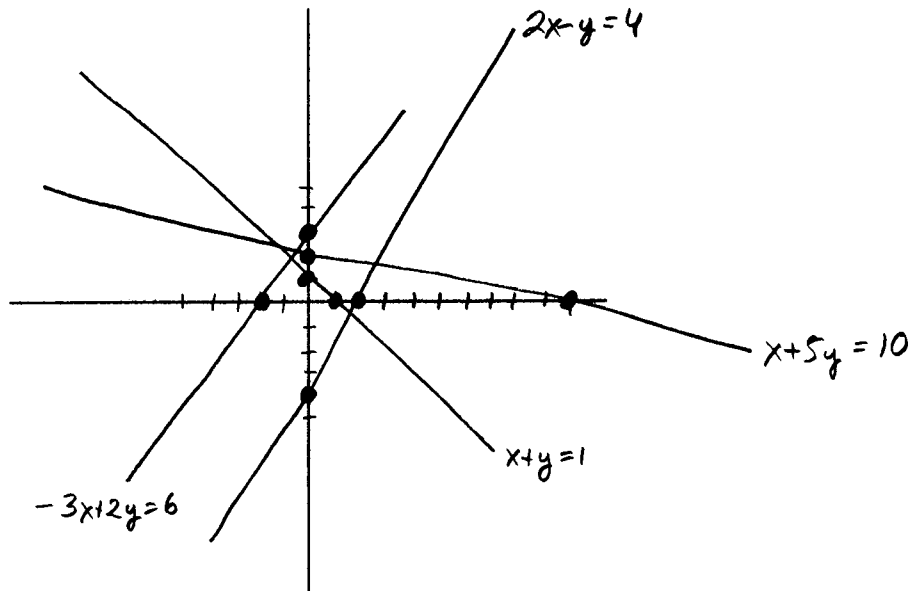
if  $x=0$  then  $2y=6$       if  $y=0$  then  $-3x=6$

4.  $x + 5y = 10$

$(0, 2)$  and  $(10, 0)$

if  $x=0$  then  $5y=10$       if  $y=0$  then  $x=10$

5-8. For each pair of  $y$ - and  $x$ -intercept points from Problems 1-4, plot them and then draw the line through them. Label each line with its equation.



9. Rewrite each  $Ax + By = C$  equation in the form  $y = mx + b$ .

(a)  $x + y = 1$

$y = -x + 1$

(c)  $-3x + 2y = 6$

$2y = 3x + 6$   
 $y = \frac{3}{2}x + 3$

(b)  $2x - y = 4$

$-y = -2x + 4$   
 $y = 2x - 4$

(d)  $x + 5y = 10$

$5y = -x + 10$   
 $y = -\frac{1}{5}x + 2$

10. For each of your  $y = mx + b$  equations in Problem 9, find the slope and the  $y$ -intercept of the line represented by the equation. Do these slopes and  $y$ -intercepts match the lines you drew in Problems 5-8? (yes)

(a)  $m = -1$   $(0, b) = (0, 1)$

(c)  $m = \frac{3}{2}$   $(0, b) = (0, 3)$

(b)  $m = 2$   $(0, b) = (0, -4)$

(d)  $m = -\frac{1}{5}$   $(0, b) = (0, 2)$