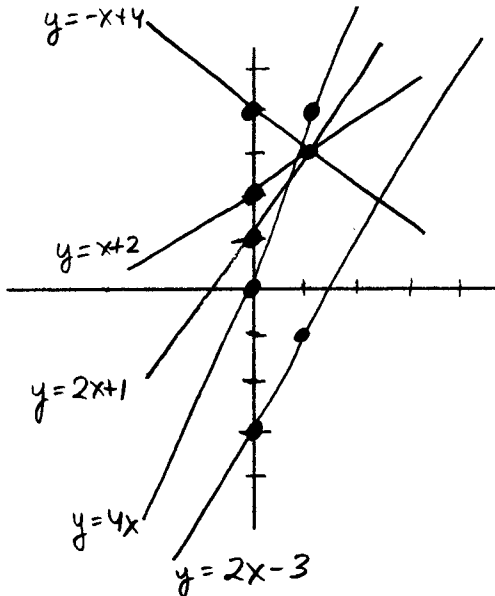


**P-5** For each equation in the form  $y = mx + b$ , find the slope  $m$  and the  $y$ -intercept  $(0, b)$ . Sketch each line by plotting only the  $y$ -intercept and marking off a "slope triangle" to find a second point. Be sure to follow the method used in the example problem.

1.  $y = x + 2$ . The slope is  $\frac{1}{1}$  and the  $y$ -intercept is  $(0, 2)$ .
2.  $y = 2x + 1$ . The slope is  $\frac{2}{1}$  and the  $y$ -intercept is  $(0, 1)$ .
3.  $y = -x + 4$ . The slope is  $\frac{-1}{1}$  and the  $y$ -intercept is  $(0, 4)$ .
4.  $y = 4x$ . The slope is  $\frac{4}{1}$  and the  $y$ -intercept is  $(0, 0)$ .
5.  $y = 2x - 3$ . The slope is  $\frac{2}{1}$  and the  $y$ -intercept is  $(0, -3)$ .

6. Are any of the lines that you drew parallel? yes Which ones? #2 and #5  
 Should they be parallel? yes Why?  
#2 always has its  $y$ -value 4 more than that of #5



Al Burnt works as a chef at Mimums Cookin, Inc. He makes six dollars per hour and works a regular forty hour week. When he works overtime, he makes twice his usual pay per hour.

7. What is Al's pay for a forty hour week?  $\$240$  ( $40 \times \$6$ )
8. What is his overtime pay per hour?  $\$12$  ( $2 \times \$6$ )
9. Let  $x$  stand for the number of hours of overtime Al works this week and let  $y$  be his total week's pay. Find an algebraic expression that shows how to find  $y$  from  $x$ .

$$y = 12x + 240$$

10. Make a sketch of the function you found in Problem 9.

Can  $x$  ever be negative? no Why (or why not)? Al can't work a negative # of hours of overtime - He has to work a full regular week first!

