

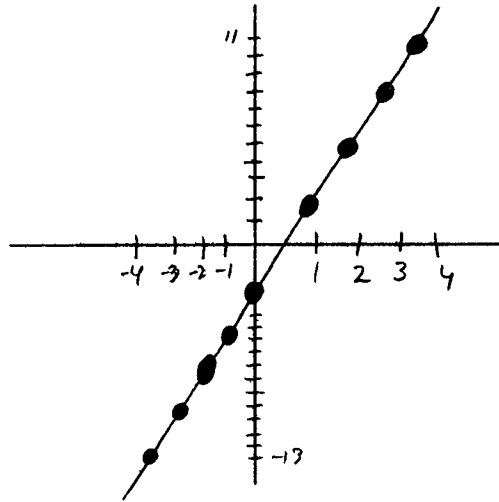
P-4 In this problem set, we will study the function of x given by the equation

$$y = 3x - 1$$

1. Complete the table by finding the y -value for each given x -value. For example, when $x = 1$ the y -value is $y = 3 \cdot 1 - 1 = 2$ and this value appears in the table under the x -value of 1.

x	-4	-3	-2	-1	0	1	2	3	4
y	-13	-10	-7	-4	-1	2	5	8	11

2. Plot the nine pairs of (x, y) values that you now have in your table and connect them with a smooth line.



3. At what y -value does your graph cross the y -axis? -1 Does this number appear in the equation $y = 3x - 1$? yes Each time you move *one to the right* in your sketch, do you move *up* or *down* to get to the next point? up How far? 3 Does this number appear in the equation $y = 3x - 1$? yes

Translate the first sentence of each problem into an algebraic equation. Then use your equation and the information given in the second sentence to answer the question.

4. Bob has six dollars more than Tim. If Tim has sixteen dollars, how much money does Bob have?

let x be Tim's \$
 y be Bob's \$

$$y = x + 6$$

if $x = 16$ then $y = 16 + 6 = 22$
 Bob has 22 dollars.

5. Sue has five dollars less than four times the amount of money that Jill has. If Jill has ten dollars, how much money does Sue have?

let x be Jill's \$
 y be Sue's \$

$$y = 4x - 5$$

if $x = 10$ then $y = 4 \cdot 10 - 5 = 40 - 5 = 35$
 Sue has \$35.