

Useful Guidelines:

- * **Relation:** A set of ordered pairs. [Example: $S = \{(-1,3), (2,4), (3,-2), (4,5)\}$]
- * **Domain:** In a relation consisting of ordered pairs (x,y) , the set of x -values is the domain.
- * **Range:** In a relation consisting of ordered pairs (x,y) , the set of y -values is the range.

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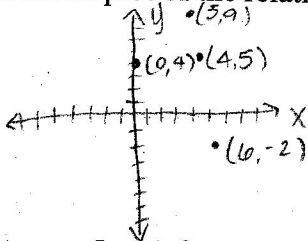
1. Identify the domain and range of the following:

$S = \{(-1,2), (1,3), (5,-1), (9,2)\}$

domain: $\{-1, 1, 5, 9\}$

range: $\{2, 3, -1\}$

2. Make a scatterplot of the relation $S = \{(0,4), (3,9), (6,-2), (4,5)\}$.

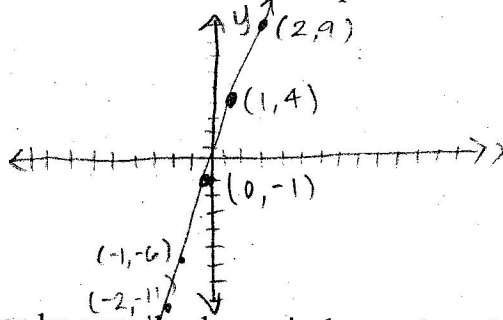


v. neat!

3. Evaluate $y = 5x - 1$ for $x = -2, -1, 0, 1$ and 2 . Plot the resulting ordered pairs.

x	y
2	9
-2	-11
-1	-6
0	-1
1	4

$y = 5x - 1$
 $y = 5(2) - 1 (y = 9)$
 $y = 5(-2) - 1 (y = -11)$
 $y = 5(-1) - 1 (y = -6)$
 $y = 5(0) - 1 (y = -1)$
 $y = 5(1) - 1 (y = 4)$



4. Suppose $f(x) = 4x^2 + 3x$ thousand dollars can be earned, where x is the number of years after 2006.

a. What is $f(3)$?

$4(9) + 3(3) = 45$ THOUSAND DOLLARS

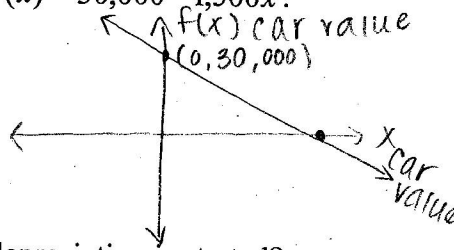
b. The answer to part (a) gives the number of thousand dollars earned for what year?

year = 2009

5. Suppose a car valued at \$30,000 is depreciated over 3 years by the straight-line method, so that its value x years after the depreciation began is $f(x) = 30,000 - 1,500x$.

a. Graph this function.

x	$f(x) = 30,000 - 1,500x$
0	30,000
20	0



b. What is the value 2 years after the depreciation is started?

$f(x) = 30,000 - 15,000(2)$

$f(2) \$27,000$