

## **Functions**

The student will create and use tabular, symbolic, graphical, verbal, and physical representations to analyze a given set of data for the existence of a pattern; determine the domain and range of relations; and identify the relations that are functions.

**SOL A.7a**

**Materials:** deck of function cards

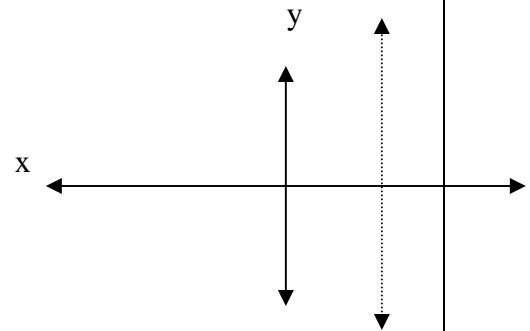
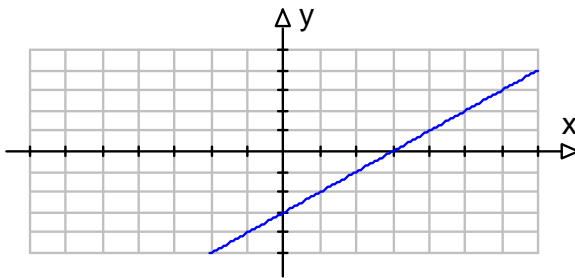
**Groups:** up to 6 students per group

**Game:**

Deal the entire deck out to students. Have students discuss which cards represent functions and which do not. Have them make a pile of the cards that represent functions and a pile of the cards that do not.

$\{(1, 2) (3, 4) (-2, 4) (7, -2)\}$

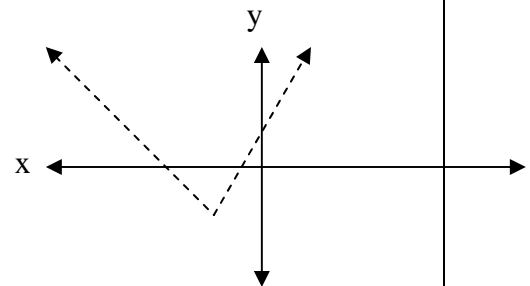
x	y
1	2
7	2
-4	2
-5	2

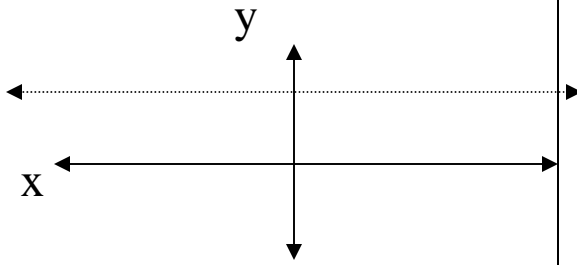


$$f(x) = 3x - 4$$

$\{(2, 5) (-2, 5) (3, 5) (-3, 5)\}$

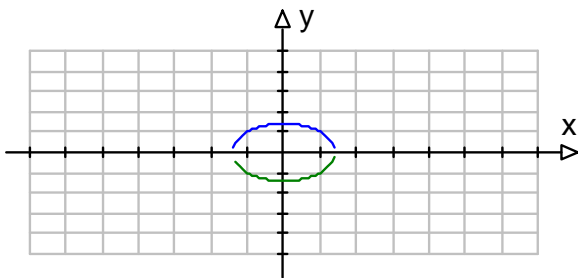
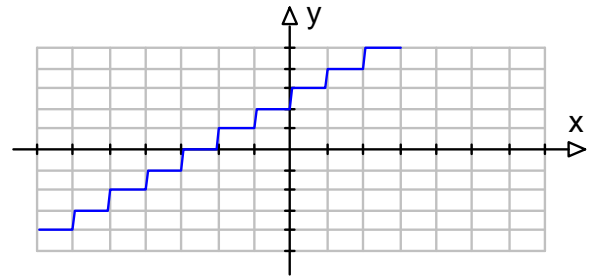
$\{(1, 2) (1, 3) (1, 4) (1, 8)\}$





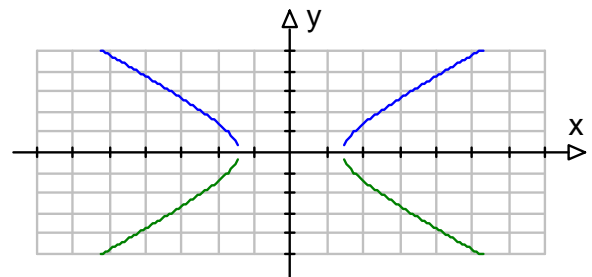
{(4, 0) (3, 5) (3, 4) (0, 4)}

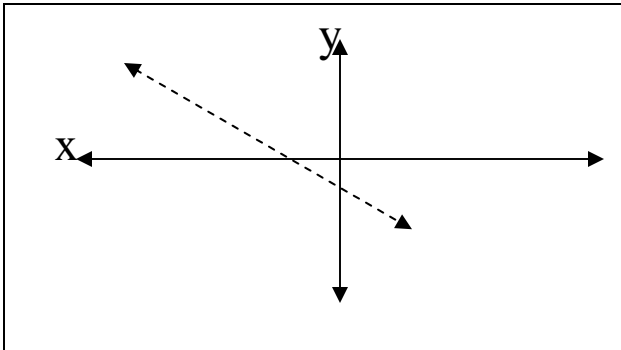
$$f(x) = |x + 4|$$



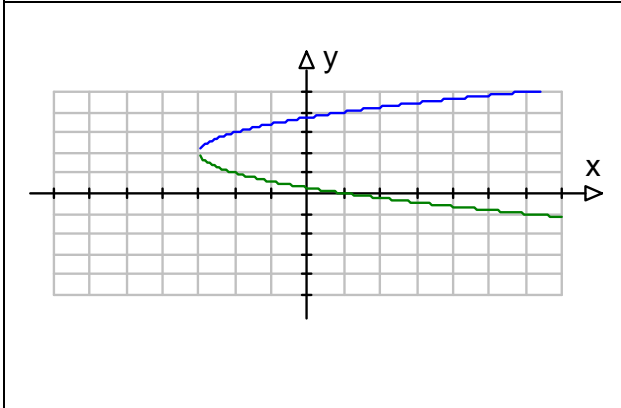
x	f(x)
2	7
3	10
5	16
8	25

x	f(x)
36	6
36	-6
25	5
25	-5



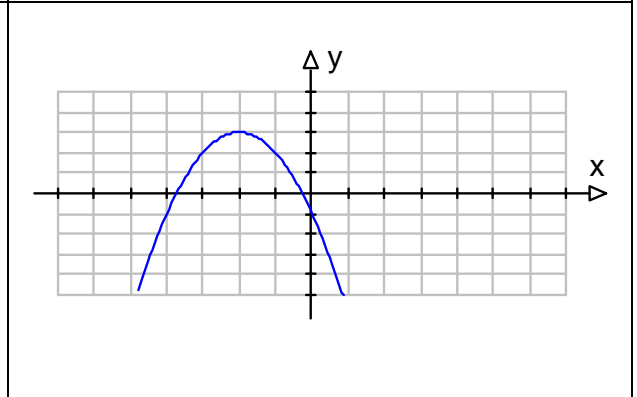
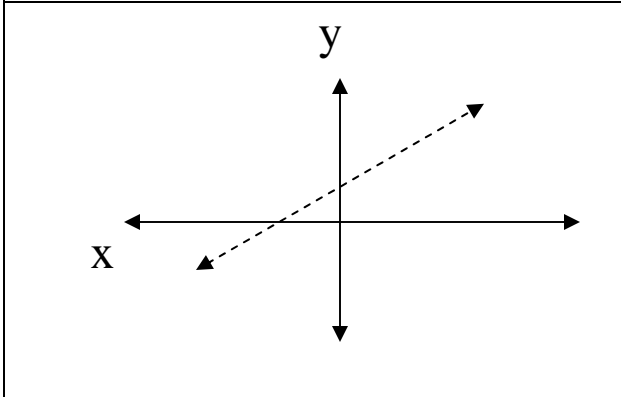
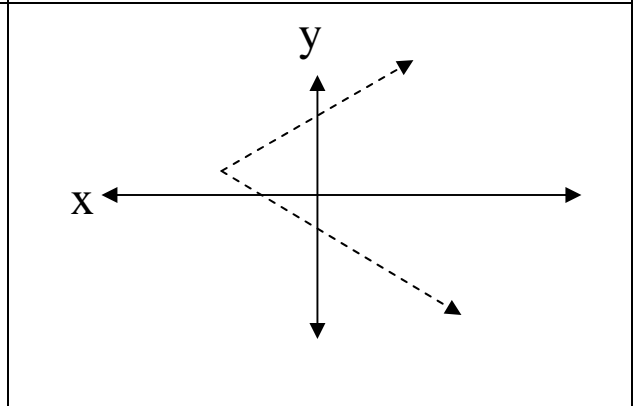


x	f(x)
0	36
2	38
9	45
20	56



{(0,1) (1, 0) (2, 3) (3, 2)}

{(3, -2) (4, 8) (3, 2) (10, 2)}



$\{(Ann, Adam) (Ann, Bob) (Ann, Carol)\}$	$y = 4x + 1$
$x = 8$	$x^2 + 2y - 1 = 0$
$y = -3$	$\{(5, 7) (2, 7) (5, 4)\}$
$y =  x $	$y = x^2 + 4$