3.5 Functions

x - input – independent variable – DOMAIN
★ values that can be "plugged" in

y - output – dependent variable – RANGE
★ answers that will be achieved

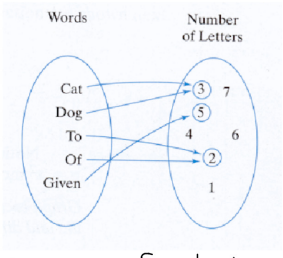
function - pairs each element of the DOMAIN with one and only one element of the RANGE.
★No two ordered pairs have the same x-values.

Find the domain and the range of each relation. Also determine whether the relation is a function.

1. {(1, 4), (2, 5), (3, 6), (4, 7)}
   domain = {1, 2, 3, 4}
   range = {4, 5, 6, 7}
   Yes - this is a function.

2. {(2, 1), (5, 3), (2, 6), (8, 9)}
   domain = {2, 5, 8}
   range = {1, 3, 6, 9}
   No - it is not a function.
   (There are 2 x-values of 2.)

3.

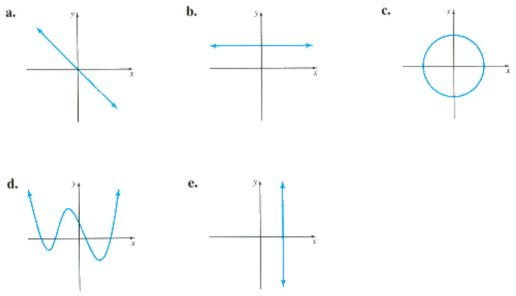


domain = {cat, dog, to, of, given}
range = {2, 3, 5}
Yes - this is a function.

Vertical Line Test - If no vertical line can be drawn that intersects the graph more than once (at the same time), the graph is a function.

Examples: Is each of the following graphs a function?

a. Yes
b. Yes
c. No
d. Yes
e. No



HOMEWORK

Worksheet - HW 3.5 Functions