

Relations & Functions

$(-4, -8)$ ordered pair
set of coordinates

relation - set of pairs of input and output values.

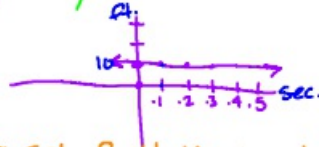
.1 sec.
.2 ft.

Dropping an egg from 10 feet

input (time in seconds) \rightarrow 0 0.1 0.2

relation \rightarrow $\{(0, 10), (0.1, 9.8), (0.2, 9.6)\}$

output (height in ft) \rightarrow 10 9.8 9.6



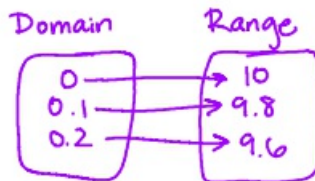
domain - a set of all the inputs, or x-coordinates, of the ordered pairs

range - a set of all the outputs, or y-coordinates, of the ordered pairs.

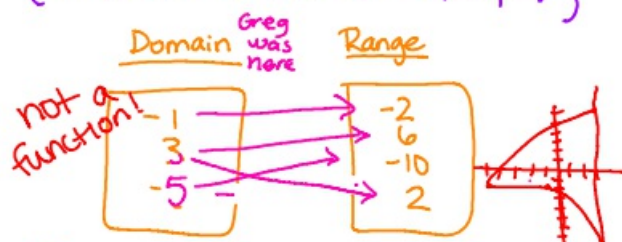
domain in the egg example: $\{0, 0.1, 0.2\}$

range in the egg example: $\{10, 9.8, 9.6\}$

mapping diagram



$\{(-1, -2), (3, 6), (-5, -10), (3, 2)\}$



function - relation in which each element of the domain is paired with exactly one element in the range.

$\{(2, 6), (9, 1), (-3, 2), (2, 4)\}$

