4.5 Introduction to Functions and Function Notation

Relation

A _____ is a set of ordered pairs.

The _____ of a relation is the set of all first coordinates in the relation.

The _____ of a relation is the set of all second coordinates in the relation.

Find the domain and range for each of the following relations.

a. r ={(5, 6), (-3, 2), (6, 1), (-4, -1)}

b. f ={(3, 6), (7, 3), (7, 4), (-1, 0)}

Function

A _____ is a relation in which each domain element has exactly one corresponding range element.

OR

A _____ is a relation in which each domain element occurs only once.

Vertical line test-

Suppose that y= 3x – 2 is a given linear equation. Since the equation is solved for y, it represents a linear function and we can replace y with the notation f(x) as _____

f(x) is read "f of x" and it stands for the y-value for some corresponding x-value.

For the function $g(x) = 4x + 3$, find $g(2)$.

For the function $f(x) = x^2 - 2x + 1$, find

a) f(-2) b) f(0) c) f(4)

For the function $h(x) = 2x^3 - 5x$, find

a) h(3) b) h(-4)

Given the function $f(x) = x^2 - 10$ with restricted domain D = {-1, 0, 2, 3}, write the function as a set of ordered pairs.

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