A and G 1. Class work 24.
Algebra.

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1. Find the discriminant and number of roots of the following equations:

$x^2 - 10x + 21 = 0;$
$2x^2 - 3x - 5 = 0;$
$4x - x^2 - 1 = 0;$
$\frac{x^2}{3} - 7x = 1;$
$x^2 = \frac{x}{2} - 1;$

$x^2 - 2x + 2 = 0;$
$-2x^2 + 7x - 3 = 0;$
$3 + 2x^2 - 7x = 0;$
$\frac{x^2}{2} - 3.5 = 2x;$
$4 - 4x + x^2 = 0.$

2. Solve the following quadratic equations:

a. $x^2 - 6x + 8 = 0$

b. $x^2 - x - 2 = 0$

c. $x^2 + 4x + 15 = 0$

d. $5x^2 + 8x - 9 = 0$

e. $3x^2 - 5x - 2 = 0$

b. $x^2 + 5x + 6 = 0$

Function.

In mathematics, a **function** is a relation between sets that associates to every element of a first set exactly one element of the second set.

A function is a process or a relation that associates each element x of a set X, the *domain* of the function, to a single element y of another set Y (possibly the same set), the *codomain* of the function.

INPUT x

FUNCTION f:

OUTPUT f(x)
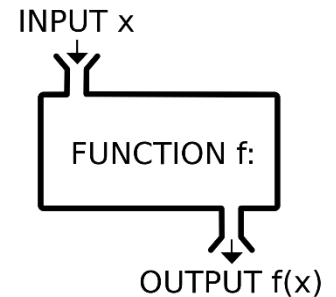
What is the difference between these to relationtip?
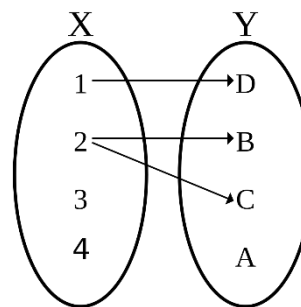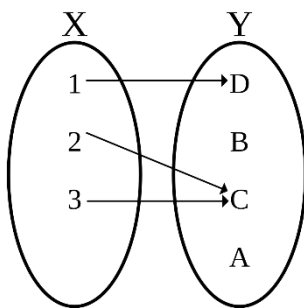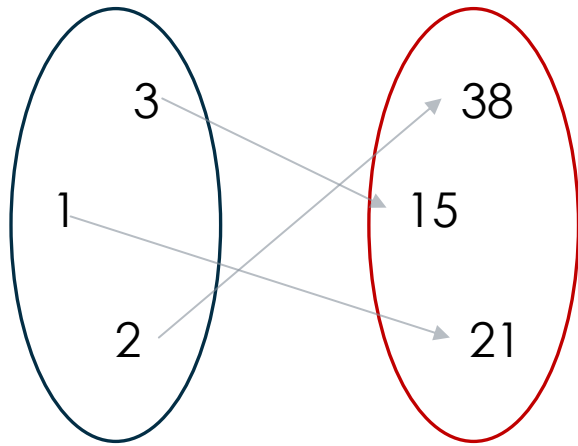
We can define a function by describing the relationship between the two sets as on the picture, or

$$f(x) = 0, if \ x \ is \ not \ a \ whole \ number$$

$$f(x) = 1, if \ x \ is \ a \ whole \ number$$

; or by a formula, for example:

$$y = f(n) = n + 3, n \in N.$$

$$f(x) = x + 3, x \ is \ a \ real \ number.$$

3 → 38
1 → 15
2 → 21

(1, 21), (2, 38), (3,15)