

March 21, 2016

Junctions

* mapping

* Junctions → is a Relation iff an object from the domain is paired exactly with one object in the range.

if and only if

A ↔ B

is a Relation domain paired w/ range

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All Functions consist of Three parts

①

Domain

②

Rule

the way an object from the Domain is paired with exactly one object from the range.

③

Range

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$f: x \rightarrow 3x - 4$

Input

2
-6
0
1

Domain
"x's"

3x - 4

Rule

Output

2
-22
-4
-1

$f(x) = 3x - 4$

Read as "f of x is equal to 3x - 4."

$f(2) = 3(2) - 4$
 $= 6 - 4$
 $= 2 \leftarrow \text{output}$

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If $f(x) = 4 - 5x - x^2$

find $f(-3)$

$$f(-3) = 4 - 5(-3) - (-3)^2$$

$$= 4 - 5(-3) - (9)$$

$$= 4 + 15 - 9$$

$$= 10 \leftarrow \text{output}$$

$(-3, 10)$ $\text{III}^{(-3, 10)}$

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Do 5.1 #1 - #45 m3

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5.2 Polynomials

* Term: is a single number (called a constant) or it is the product of a number and one or more variables.

examples: 6, -23, 19, 1005
 or $2x, -5at, 10x^2y$

* The Degree of a Term
 Is the sum of all the exponents of the variables.

$8x^1$ ← Degree is 1

$-10x^2y$ ← Degree is $2+1=3$

$3a^4b^2x^2y$ ← Degree is $4+2+2+1=9$

$5x^0 = 5 \cdot 1 = 5$
 Degree is 0

$x^0 = 1$

$1 \cdot (5x^0)$

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Polynomials

① **Monomial**: a term
"one" -18 or $4xy$

② **Binomial**: two terms connected
"two" by a sum or difference.

$$3x - 4$$

$$x^2 - 5$$

$$2 + 3$$

③ **Trinomial**: three terms connected
"three" by a + or -.

$$3x^2 - 2x + 5$$

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