1.9

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1.9

A = {1,2} B = {a,b}

A x B =

{ (1,a), (1,b) }

(2, a), (2, b)

If A or B is empty

A x B = B x A A x B = {}

A = {1,2} B = {}

A x B = {}

A x B = B x A

If A = B

A x B squiggly arrow A x A

A x A = A x A

B x A = {}

A subset of A x B is a relation from A to B. A relation to itself is called a relation on A

Ex.

A = {1,2}

B = {a,b,c}

A x B =

{ (1,a) (1,b) }

(1,c) (2,a)

(2,b) (2,c)

R =

{ (1,a), (1,b) }

(2,a), (2,c)

A = {Albert, Vedant}

B = {water, juice, soda}

R =

{ (Albert, water) }

(Vedant, juice)

(Vedant, soda)

A x B =

{ (Albert, water) }

(Albert, juice)

(Albert, soda)

(Vedant, water)

(Vedant, juice)

(Vedant, soda)

∀ x (x^2 ≥ 0)

∀ x e IR (x^2 ≥ 0)

∀ x e zz (x^2 ≥ 0)

∀ m e S E n e T (mn ≥ 0)

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