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CS 225

3.1 Set Notations

Asn 2.1: 7th edition = {8, 10, 14, 18, 20, 32}

8) a) No

b) no

c) yes

d) yes

e) yes

f) no

10) a) true

b) true

c) false

d) true

e) true

f) true

g) false

14) (I'm not sure how I can draw a picture so I will just describe how I think it should be)

Rectangle U to show the universe is U

inside U are three rings of circle, similar to a game of darts

the Inner most circle is A

The next circle is B, to denote that A is a subset of B

and the outer circle is C, to denote B is a subset of C

18) Since A is an element of set B, there exists an element in B that is A. Since A is a subset of b, this also means that all of the elements in the set A is one element inside of B. So to find a set that fulfills this requirement, an example could be: A = {1,2,3}, B = {1,2,3,{1,2,3},4,{5}}

20) a) 0

b) 1

c) 2

d) 3

32) Let a = {a,b,c} , B={x,y}, C={0,1}

a) A x B x C = {(a,x,0), (a,x,1),(a,y,0),(a,y,1),(b,x,0),(b,x,1),(b,y,0),(b,y,1),(c,x,0),(c,x,1),(c,y,0),(c,y,1)}

b)C x B x A

= {(0,x,a),(0,x,b),(0,x,c),(0,y,a),(0,y,b),(0,y,c),(1,x,a),(1,x,b),(1,x,c),(1,y,a),(1,y,b),(1,y,c)

c) C x A x B

={(0,a,x),(0,b,x),(0,c,x),(0,a,y),(0,b,y),(0,c,y), (1,a,x),(1,b,x),(1,c,x),(1,a,y),(1,b,y),(1,c,y)}

d) B x B x B

={(x,x,x),(x,x,y),(x,y,x),(x,y,y),(y,x,x),(y,x,y),(y,y,x),(y,y,y)}