$$\mathbb{P}(\{x,y,z\}) =$$

$$\{\emptyset, \{x\}, \{y\}, \{z\},$$
$$\{x,y\}, \{x,z\}, \{y,z\},$$
$$\{x,y,z\}\}$$

Hamming

66	1	0	0	0	0	1	0
63	0	1	1	1	1	1	1
	*	*	*	*	*		*

reflexive $[a,a]\ \forall a \in X$

symmetric if $[a,b]$

then $[b,a]$

transitive if $[a,b]$ and $[b,c]$

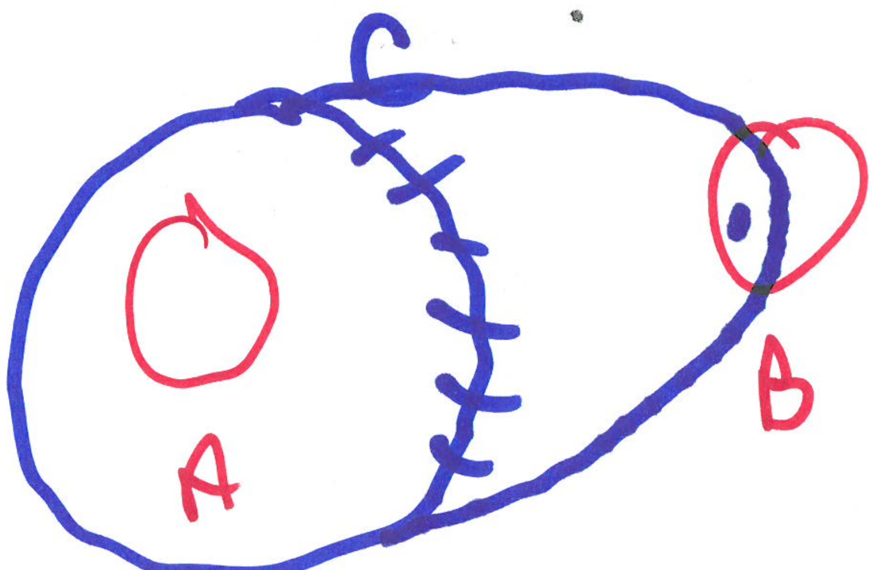
then $[a,c]$

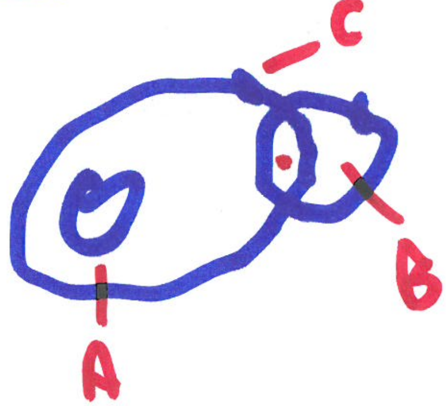
$A \cup B = \{1110, 1111, 1000, 1001,$
$1100, 0100, 0111\}$

$A \cap B = \{1111\}$

$A - B = \{1110, 1000, 1001\}$

A^c





$$\mathbb{R} = \mathbb{R}^{+} \cup \mathbb{R}^{-} \cup 0$$

$$\mathbb{R}^{+} \cap \mathbb{R}^{-} = \emptyset$$

$$\mathbb{R}^{+} \cap 0 = \emptyset$$

$$\mathbb{R}^{-} \wedge 0 = \emptyset$$

$$\mathbb{P}(\{2\}) = \{\emptyset, \{2\}\}$$

$$\mathbb{P}(\{1,2\}) = \{\emptyset, \{1\}, \{2\}, \{1,2\}\}$$

We need to show $B \subseteq C$ and $C \subseteq B$

(1) Show $B \subseteq C$

Suppose that x is a particular, but arbitrarily chosen element of B

then $x = 10b - 3$ for some $b \in \mathbb{Z}$

Can x be expressed as $10c + 7$ for some $c \in \mathbb{Z}$

$$10b + -3 = 10c + 7$$

$$10b - 10 = 10c$$

$$b - 1 = c$$

(a) is c an integer?

yes, because b is an integer and subtracting yields an int.

(b) $10c + 7 =$

$10(b - 1) + 7 =$

$10b - 10 + 7 =$

$10b - 3 = x$

by definition, $x \in C$

$\therefore B \subseteq C$