

9-9-19 6th Geo

If ^a you are blind, then ^b you
can smell better.

$a \rightarrow b$

a implies b OR if a, then b

- ① a: you are nice
b: you can't see
c: you are 90.

a.) $a \rightarrow c$: If you are nice, you are 90.

b.) $c \rightarrow b$: If you are 90, you can't see.

c.) $\sim b \rightarrow a$: If you can see, then
you are nice.

\therefore Therefore

\wedge And

\vee Or

\leftrightarrow if and only if (iff)

- ② a: you are 20
b: you can't read
c: you are a dog

Oral

$\sim c \rightarrow \sim a$

$a \leftrightarrow b$

$(a \wedge b) \rightarrow c$

③ If you can't swim, then you might drown is represented by $p \rightarrow q$. What would represent "if you might drown, then you can swim"?

$$q \rightarrow \sim p$$

- ④ a: $\angle 1$ is acute
 b: $\angle 1$ is obtuse
 c: $\angle 2$ is acute
 d: $\angle 2$ is obtuse

Symbolic for

- $\angle 1$ is acute iff $\angle 2$ is acute

$$a \leftrightarrow c$$

- $\angle 1$ is acute. Therefore, $\angle 2$ is obtuse

$$a \therefore d$$

- If $\angle 1$ is acute and $\angle 2$ is not
acute, then $\angle 2$ is obtuse.

$$a \wedge \sim c \rightarrow d$$

9-9-14 7th Geo

If ^a you have mice, then you
better hide your food.
b

$a \rightarrow b$
a implies b
if a, then b

Therefore \therefore
And \wedge
Or \vee
if and only if \leftrightarrow
(iff)

a: you are nice

b: you can eat a lot

c: you sneeze every day

① $\sim c \rightarrow b$ If you don't sneeze every day, you can eat a lot.

② $a \vee b \rightarrow c$ If you are nice OR you can eat a lot, then you sneeze every day.

③ $\sim b \therefore c$

You can NOT eat a lot. Therefore, you sneeze every day.

- ④ "If ^p you are jumping in a lake, then you can't stay here" is represented by $p \rightarrow q$.
What would represent "if you don't jump in a lake, then you can stay here"?

$$\sim p \rightarrow \sim q$$

- ⑤ a: you can't sing
x: you can dance
What is "If you can't dance and you can sing, then you can dance"?

$$\sim x \wedge \sim a \rightarrow x$$

- ⑥ p: you can't dribble
q: you can shoot
What represents "you can shoot if and only if you can't dribble"?

$$q \leftrightarrow p$$