9-6-18 5th Geo

If you eat pie, then you can't eat ice cream

a: you eat pie

b: you can't eat ice cream

$a \rightarrow b$

if a, then b

a implies b

a: you are 10

b: you are bald

c: you are nice

Orally

① $b \rightarrow c$

② $a \rightarrow \sim b$

③ $\sim c \rightarrow \sim a$

$\therefore$ → therefore

$\vee$ → OR

$\wedge$ → AND

d: you can't swim

p: you are tall

q: you live in Savannah.

Orally

④ $\sim d \rightarrow q$

⑤ $(p \vee q) \rightarrow d$

⑥ $\sim q \rightarrow p \therefore d$

⑦ "If you don't eat fish, then you have good breath" is represented by $p \to q$.

What would represent "if you don't have good breath, you don't eat fish"?

$\sim q \to p$

⑧ Let p represent $\sqrt{11} = z$, and let q represent z is a rational number.

What represents "if $\sqrt{11} = z$, then z is not a rational number"?

$p \to \sim q$

$a \leftrightarrow b$

↑

if and only if

iff

9-6-18 6th Geo

If [a: you run fast], [b: you are cool]

$a \rightarrow b$

if a, then b

a implies b

a: you are rich

b: you are bald

c: you are old

Orally

① $b \rightarrow c$

② $\sim c \rightarrow a$

③ $b \rightarrow \sim c$

$\therefore$ → therefore

$\vee$ → OR

$\wedge$ → AND

$\leftrightarrow$ if and only if

iff

p: you are not tall

q: you are blind

r: you wear hightops.

Orally

④ $\sim p \to q \therefore r$

⑤ $(q \wedge r) \to p$

⑥ $q \to (p \vee r)$

⑦ "If you have a dog, then you are happy" is represented by $p \to q$. What represents "if you are not happy, then you don't have a dog"?

$\sim q \to \sim p$

⑧ Let p represent $\sqrt{11} = \frac{z}{z}$, and q represent $\frac{z}{z}$ is a rational number. What represents "if $\sqrt{11} = \frac{z}{z}$, then $\frac{z}{z}$ is not a rational number"?

$p \to \sim q$

⑨ p: $x^2 = 21$

q: x is not a whole numbe

What represents "if x is a whole number, then $x^2 \neq 21$"?

$\sim q \to \sim p$

(10) a: you are ll.

b: you like math

c: you like Mrs. Hicken

d: you are crazy

Orally

$\sim b \rightarrow (a \vee c) \therefore d$

Kim

Ballpark signs