Lesson Title 2.1 Conditional Statements **HGEO** **Date** _____

Conditional Statement

a statement that can be written in "if-then" format. Also noted as "$p \rightarrow q$", which can be read as "*p implies q*"

Hypothesis: the part of a conditional statement following the word "if" or words that imply "if."

Conclusion: the part of a conditional statement following the word "then" or words that imply "then."

TASK 1:

a) If the ∠ is acute ⇒ the ∠ is < 90°
b) If it doesn't rain ⇒ the game will be played.
c) If you are a runner ⇒ you are an athlete.

Converse, Inverse, Contrapositive

Converse: $q \rightarrow p$: shoes wrong feet

Inverse: $\sim p \rightarrow \sim q$: not of original

Contrapositive: $\sim q \rightarrow \sim p$: flip & not

TASK 2:

a) If you are a teenager, ⇒ you are 13.
b) If you are 13, ⇒ you are a teenager.
c) If you are not a teenager ⇒ you are not 13.
d) If you are not 13 ⇒ you are not a teenager.

Truth Value: If the statement is true or false.

Logically Equivalent: if the statements are both True or false.

Counter-example: something that proves a statement wrong

BiConditional: conditional & converse are True ⇒ iff means if & only if

TASK 3:

a) true, yes ⇒ An ∠ is right iff it measures 90.
b) False, no. counterexample : x=-2 y=2
c) true, no. counterexample: Snickers has caramel too.

Vocabulary & Examples

Task 4:

a) An angle is acute iff its measure is < 90°
b) TWO ∠'s R ≅ iff they have the same measure.

Task 5:

a) X others are athletes too.
b) ✓ (definition)
c) ✓ (definition)
d) X whole #'s are #'s too
e) ✓ (true statement)

Task 6:

a) X apple
b) ✓ (definition)
c) X rectangle
d) X principal
e) ✓ (true statement)

Still need help with: