

Welcome!! Please grab your ISN and have a seat! This will
be DO NOW #3 on pg 44 :)

Use the Law of Detachment or the Law of Syllogism to find a valid conclusion. If no valid conclusion exists write "no valid conclusion".

8. If it is snowing, then school is closed.
It is snowing today.

Then school is closed.

9. If a student does well in geometry, ~~then the student will do well on the SAT.~~
~~If a student does well on the SAT,~~ then the student will get into a good college.

If a student does well in geometry, then the student will get into a good college

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UNIT 2 WWK PAGE 43:

<u>Biconditional</u> statement	statement in the form "if and only if". must be true forwards and backwards.	"You pass if & only if you make 59.5 or higher!"
negation	opposite of a statement	"Pizza is healthy." "Pizza is not healthy!"

Sep 20-9:00 AM

TOC pg 47 Conditional and Biconditional

<u>Conditional</u>	Negation
Biconditional	Symbols

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TOC pg 47 Conditional and Biconditional

Conditional

"If, then." statement

"If" → hypothesis

"then" → conclusion.

"If it rains, then I will use my umbrella."

H: If it rains

C: I will use my umbrella

Negation

- Opposite of a statement
- adds NOT to the statement.

Fruit is healthy

Fruit is NOT healthy.

It is not September.

It is September.

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TOC pg 47 Conditional and Biconditional

"If and only if" statement

* you can switch the hypothesis & conclusion and it will still be true.

"An angle is acute if and only if it is less than 90°."

Biconditional

Conditional

$$p \rightarrow q$$

p: hypothesis
q: conclusion

Negation

~ - not

Biconditional

$$p \leftrightarrow q$$

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

Symbols

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Identify the hypothesis and conclusion. Then, write the negation (negate the conclusion).

Ex 1 (pg 48) If $2x+1 = 5$, then $x = 2$,
hyp con.

If $2x+1=5$, then $x \neq 2$.

Ex 2 (pg 48) If a plant is growing, then it needs water.
hyp con.

If a plant is growing, then it does not need water.

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Write the biconditional and tell if it is true.

Ex 3 (pg 48) If an animal has two legs, then it is a bird.

An animal has two legs
if and only if it is a bird.

False: humans / kangaroos

Ex 4 (pg 48) If you are vegetarian, then you do not eat meat.

You are vegetarian if and only if
you do not eat meat.

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Homework 2-1 Conditional Statements

Underline the hypothesis, and circle the conclusion of each conditional statement.

and write the negation.

1. If you eat breakfast, then you will feel better at school.

2. If two lines are perpendicular, then they form right angles.

3. If two angles are supplementary, then their sum is 180° .

4. If a nonzero number has exactly two factors, then the number is prime.

Write each statement in if-then form.

5. All students at Hermitage take an English class.

If you are a student @ Hermitage
then you will take an English class.

6. All right angles measure 90° .

7. Every dog has four legs.

8. All vertical angles are congruent.

9. All cats chase mice.

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