

Warm-Up:

Simplify each expression.

1) $9s^2 + 3t + s^2 + t$

$$10s^2 + 4t$$

2) $6x + 2(y + 3x) + 5(x + 4y)$

$$6x + 2y + 6x + 5x + 20y$$

$$17x + 22y$$

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56, 34, 25

25) $4a + 2b + a$

$$5a + 2b$$

34) $6(x + y^2) - 3(x + y^2)$

$$6x + 6y^2 - 3x - 3y^2$$
 Distributive

$$6x - 3x + 6y^2 - 3y^2$$
 Commutative

$$(6x - 3x) + (6y^2 - 3y^2)$$
 Associative

$$3x + 3y^2$$
 Substitution

56) $3(5 - 5 \cdot 1^2) + 21 \div 7$

$$3(5 - 5 \cdot 1) + 21 \div 7$$
 Mult. Identity

$$3(5 - 5) + 21 \div 7$$
 Mult. Identity

$$3(0) + 21 \div 7$$
 Add. Inverse

$$0 + 21 \div 7$$
 Mult. Property of Zero

$$0 + 3$$
 Substitution

$$3$$
 Add. Identity

Sep 8-11:44 AM

Section 1-7: Logical Reasoning and Counterexamples

A conditional statement is a statement written in "If-Then" form.

If it is Thanksgiving, then it's Thursday.

If you're happy and you know it, then clap your hands.

If you don't eat meat, then you are a vegetarian.

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The part of the statement following the "if" is the hypothesis.

The part of the statement following the "then" is the conclusion.

If John gives me lemons, then I will make lemonade.

hypothesis

conclusion

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Examples:

Identify the hypothesis and conclusion of each statement.

1) If it is raining, then Jon and Chloe will not play softball.

2) If Randy rents a movie, then I will watch it.

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Examples:

Identify the hypothesis and conclusion of each statement. Then write each statement in "if-then" form.

3) I eat light meals.

Hyp: I eat

Conc: light meals

If I eat, then I eat a light meal.

4) For a number a such that $8 + 5a = 43$, $a = 7$.

Hyp: A number a such that $8 + 5a = 43$

Conc: $a = 7$

If there is a number a such that $8 + 5a = 43$, then $a = 7$.

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Examples:

Determine if a valid conclusion can be reached for each condition.

If the Jaguars are on TV, then Zachary will watch them.

5) Zachary watches "Glee".

No Valid Conclusion

6) Zachary did not watch TV.

The Jags weren't on TV.

Hyp: True \rightarrow Conc: True

Conc: False \rightarrow Hyp: False

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To show that a conditional statement is false, we can provide a counterexample.

A counterexample is a case where the hypothesis is true and the conclusion is false.

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Examples:

Provide a counterexample for the following conditional statements.

7) If I am looking at a picture of Ulysses Grant, then I am holding a \$50 bill.

In White House
History Book
Internet
On a Folder

8) If a person is blonde, then that person is over 6 feet tall.

Mirissa .
Robbie Sue

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Homework: pg. 42-44 #15-18 all, 20, 24, 25-34 all,
36, 47-49 all

Section 1-7 Vocab

Quiz over 1-4, 1-5, 1-6 next class

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