

Conditional Statements Part 1

A conditional statement is often called an “If, then” statement. This is because conditional statements are always structured as cause and effect: “If something happens, then something else happens.” Conditional statements are what we call the original “If, then” statement—it’s where you start. From there, you can do a few things.

**#1: Determine if it’s TRUE.** For example: If the sky is blue, then monkeys can fly.

*Does a blue sky MEAN monkeys can fly? NO. So, this statement is a FALSE conditional.*

**#2: Write its CONVERSE.** This just means SWITCH the front part with the end part.

For example: If the sky is blue, then monkeys can fly.

*CONVERSE: If monkeys can fly, then the sky is blue.*

**#3: Write its INVERSE.** This just means change the original from YES to NO, or from NO to YES.

For example: If the sky is blue, then monkeys can fly.

*INVERSE: If the sky is NOT blue, then monkeys CAN’T fly.*

**#4: Write its CONTRAPOSITIVE.** This do BOTH converse & inverse: SWITCH them and change from YES to NO.

For example: If the sky is blue, then monkeys can fly.

*CONTRAPOSITIVE: If monkeys CAN’T fly, then the sky is NOT blue.*

and finally,

**#5: Write its BICONDITIONAL.** This just means GET RID OF IF & THEN, and put IF & ONLY IF in between them.

For example: If the sky is blue, then monkeys can fly.

*BICONDITIONAL: The sky is blue, if and only if monkeys can fly.*

**EXAMPLE.** Conditional:

If  , then  Is it true or false? (Circle one)

Converse: switch the boxes

If  , then

Inverse: change yes to no or no to yes

If  , then

Contrapositive: switch them & change yes to no/no to yes

If  , then

Biconditional: Leave the boxes as they were (lose If, then)

*In the middle, write IF & ONLY IF*

, if and only if

1. Conditional:

If  , then  Is it true or false? (Circle one)

Converse: switch the boxes

If  , then

Inverse: change yes to no or no to yes

If  , then

Contrapositive: switch them & change yes to no/no to yes

If  , then

Biconditional: Leave the boxes as they were (lose If, then)

*In the middle, write IF & ONLY IF*

, \_\_\_\_\_

2. Conditional:

If  , then  Is it true or false? (Circle one)

Converse: *switch the boxes*

If  , then

Inverse: *change yes to no or no to yes*

If  , then

Contrapositive: *switch them & change yes to no/no to yes*

If  , then

Biconditional: *Leave the boxes as they were (lose If, then)*

*In the middle, write IF & ONLY IF*

,

Now, try it without the guidance.

3. Conditional: If I am a human, then I have two legs. TRUE or FALSE?

Converse: \_\_\_\_\_

Inverse: \_\_\_\_\_

Contrapositive: \_\_\_\_\_

Biconditional: \_\_\_\_\_

4. Conditional: If it's raining here, then we're not in Southern California. TRUE or FALSE?

Converse: \_\_\_\_\_

Inverse: \_\_\_\_\_

Contrapositive: \_\_\_\_\_

Biconditional: \_\_\_\_\_

4. Conditional: If the angles are vertical, then they are congruent. TRUE or FALSE?

Converse: \_\_\_\_\_

Inverse: \_\_\_\_\_

Contrapositive: \_\_\_\_\_

Biconditional: \_\_\_\_\_

3. Conditional: If it is a midpoint, then the whole will be two times the size of one part. TRUE or FALSE?

Converse: \_\_\_\_\_

Inverse: \_\_\_\_\_

Contrapositive: \_\_\_\_\_

Biconditional: \_\_\_\_\_