# NOTES 2.1: CONDITIONAL STATEMENTS

Objective:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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***CONDITIONAL STATEMENT:***

***HYPOTHESIS:***

***CONCLUSION:***

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| EXAMPLE 1: State the hypothesis and conclusion of the  **conditional statement below.**If you have no more than two absences and a B-average, then you can be exempt from your final. |
| Hypothesis: |
| Conclusion: |

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| EXAMPLE 2: Rewrite the statement below as a conditional  **statement, then state the hypothesis and**  **conclusion.**A car with poor brakes is a menace on the highway. |
| **Conditional:** |
| **Hypothesis:** |
| **Conclusion:** |

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| EXAMPLE 3: Rewrite the statement below as a conditional  **statement, then state the hypothesis and**  **conclusion.**Mrs. Ellison gives her students homework on days that end in ‘y’. |
| **Conditional:** |
| **Hypothesis:** |
| **Conclusion:** |

***CONVERSE STATEMENTS:***

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| EXAMPLE 4: State the converse of the conditional statement in  **EXAMPLE 1.** |
| **Converse:** |

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| **EXAMPLE 5: Write the converse of the conditional statement**  **below, then tell whether its TRUE or FALSE.**If an angle has a measure of $120°$, then it is an obtuse angle. |
| **Converse:****TRUE or FALSE** |

***COUNTEREXAMPLE:***

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| EXAMPLE 6: Give a counterexample for the converse statement  in EXAMPLE 5. |
| **Counterexample:** |

**Notes 2.1 (Continued)**

***NEGATION:***

***INVERSE:***

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| **EXAMPLE 7: Write the inverse of the conditional statement below.*****If you pass the STAAR test, then you will graduate.*** |
| **Inverse:** |

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| **EXAMPLE 8: Write the inverse of the following statement. Determine**  **if the inverse is true or false. If false, give a**  **counterexample.*****If school is in session, then it is a weekday.*** |
| **Inverse:****TRUE or FALSE****Counterexample (if necessary):** |

***CONTRAPOSITIVE:***

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| **EXAMPLE 9: Write both the converse and the contrapositive of the**  **conditional statement below.** ***If you run a red light, then you are breaking a traffic law.*** |
| **Converse:** |
| **Contrapositive:** |

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| **EXAMPLE 10: Write the contrapositive of the conditional**  **statement below, then determine if it is true or**  **false. If false, give a counterexample.** ***If you ask to leave the classroom, then you must present your ID.*** |
| **Contrapositive:****TRUE or FALSE?****Counterexample(if necessary):** |

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| **EXAMPLE 11: Write a conditional statement for the statement**  **below, then write its converse, inverse, and**  **contrapositive.*****Seniors must pass English IV in order to graduate.*** |
| **Conditional:** |
| **Converse:** |
| **Inverse:** |
| **Contrapositive:** |