Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Unit 10 – Conditionals**

Monica

Geometry Period:\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Directions:**  All of the questions below are Regents questions. For the multiple choice questions, choose the best answer for each question. Answer all of the questions.

 1) What is the negation of the statement “The Sun is shining”?

 1) It is cloudy. 2) It is daytime. 3) It is not raining. 4) The sun is not shining.

 2) A student wrote the sentence “4 is an odd integer.” What is the negation of this sentence and the truth value of the negation?

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| 1) | 3 is an odd integer; true |
| 2) | 4 is not an odd integer; true |
| 3) | 4 is not an even integer; false |
| 4) | 4 is an even integer; false |

 3) What is true about the statement “If two angles are right angles, the angles have equal measure” and its converse “If two angles have equal measure then the two angles are right angles”?

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| 1) | The statement is true but its converse is false. |
| 2) | The statement is false but its converse is true. |
| 3) | Both the statement and its converse are false. |
| 4) | Both the statement and its converse are true. |

 4) What is the converse of the statement “If it is sunny, I will go swimming”?

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| 1) | If it is not sunny, I will not go swimming. |
| 2) | If I do not go swimming, then it is not sunny. |
| 3) | If I go swimming, it is sunny. |
| 4) | I will go swimming if and only if it is sunny. |

 5) What is the inverse of the statement “If it is sunny, I will play baseball”?

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| 1) | If I play baseball, then it is sunny. |
| 2) | If it is not sunny, I will not play baseball. |
| 3) | If I do not play baseball, then it is not sunny. |
| 4) | I will play baseball if and only if it is sunny. |

 6) What is the contrapositive of the statement, “If I am tall, then I will bump my head”?

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| 1) | If I bump my head, then I am tall.  |
| 2) | If I do not bump my head, then I am tall. |
| 3) | If I am tall, then I will not bump my head. |
| 4) | If I do not bump my head, then I am not tall. |

 7) Which statement is logically equivalent to “If I did not eat, then I am hungry”?

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| 1) | If I am not hungry, then I did not eat. |
| 2) | If I did not eat, then I am not hungry. |
| 3) | If I am not hungry, then I did eat. |
| 4) | If I am hungry, then I did eat. |

 8) A conditional statement is always logically equivalent to its

 1) contrapositive 2) converse 3) conjunction 4) inverse

 9) Given the statement: "If I live in Albany, then I am a New Yorker." In the spaces provided below, write the inverse, the converse, and the contrapositive of this statement.

 Inverse:

 Converse:

 Contrapositive:

 Which of the above conditionals is logically equivalent to its original statement?

10) Given the true statement, "The medians of a triangle are concurrent," write the negation of the statement and give the truth value for the negation.