**Practice Exercises for Mathematical Logic**

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| 1. | Začátek formuláře   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **p** | **q** | **~p** | **phttps://www.mathgoodies.com/sites/default/files/lesson_images/and.gifq** | **phttps://www.mathgoodies.com/sites/default/files/lesson_images/or.gifq** | **phttps://www.mathgoodies.com/sites/default/files/lesson_images/conditional.gifq** | | T | T |  | T | T | T | | T | F | F |  | T | F | | F | T | T | F |  | T | | F | F | T | F | F |  |   Konec formuláře |  |  |  |
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| 2. | Začátek formuláře   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **p** | **q** | **~q** | **phttps://www.mathgoodies.com/sites/default/files/lesson_images/and.gifq** | **(phttps://www.mathgoodies.com/sites/default/files/lesson_images/and.gifq)**https://www.mathgoodies.com/sites/default/files/lesson_images/conditional_transp.gif~**q** | |  | T | F | T | F | | T | F |  | F | T | | F | T | F |  | T | | F | F | T | F |  |   Konec formuláře | |  |  |  |

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| 3. | Začátek formuláře   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **x** | **y** | **xhttps://www.mathgoodies.com/sites/default/files/lesson_images/conditional.gify** | **yhttps://www.mathgoodies.com/sites/default/files/lesson_images/conditional.gifx** | **(xhttps://www.mathgoodies.com/sites/default/files/lesson_images/conditional.gify)https://www.mathgoodies.com/sites/default/files/lesson_images/and.gif(yhttps://www.mathgoodies.com/sites/default/files/lesson_images/conditional.gifx)** | **xhttps://www.mathgoodies.com/sites/default/files/lesson_images/biconditional.gify** | | T | T |  | T | T | T | | T | F | F |  | F | F | | F | T | T | F |  | F | | F | F | T | T | T |  |   Konec formuláře |  |  |

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| 4. | |  | | --- | | Which of the following statements from problem 3 is conditional? | | Začátek formuláře  **x** **y** **xhttps://www.mathgoodies.com/sites/default/files/lesson_images/biconditional.gify** None of the above.  RESULTS BOX:  Konec formuláře | | |
| https://www.mathgoodies.com/sites/default/files/lesson_images/tab.gif | | | | |
| 5. | |  | | --- | | Which of the following statements from problem 3 is biconditional? | | Začátek formuláře  **xhttps://www.mathgoodies.com/sites/default/files/lesson_images/conditional_transp.gify** **yhttps://www.mathgoodies.com/sites/default/files/lesson_images/conditional_transp.gifx** **xhttps://www.mathgoodies.com/sites/default/files/lesson_images/biconditional_transp.gify** None of the above.  RESULTS BOX:  Konec formuláře | | |  |  |
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| 6. | Začátek formuláře   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **a** | **b** | **ahttps://www.mathgoodies.com/sites/default/files/lesson_images/conditional.gifb** | **(ahttps://www.mathgoodies.com/sites/default/files/lesson_images/conditional.gifb)https://www.mathgoodies.com/sites/default/files/lesson_images/and.gifa** | **[(ahttps://www.mathgoodies.com/sites/default/files/lesson_images/conditional.gifb)https://www.mathgoodies.com/sites/default/files/lesson_images/and.gifa]https://www.mathgoodies.com/sites/default/files/lesson_images/conditional.gifb** | | T |  | T | T | T | | T | F |  | F | T | | F | T | T |  | T | | F | F | T | F |  |   Konec formuláře |  |  | |

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| 7. | |  | | --- | | Choose the word that best completes this sentence: The statement in the last column of the truth table in problem 6 is a \_\_\_\_\_\_\_\_\_\_\_\_. | | Začátek formuláře  Biconditional Tautology Disjunction None of the above.  RESULTS BOX:  Konec formuláře | | | |
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| 8. | Začátek formuláře   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **p** | **q** | **~q** | **phttps://www.mathgoodies.com/sites/default/files/lesson_images/conditional.gif~q** | **phttps://www.mathgoodies.com/sites/default/files/lesson_images/and.gifq** | **~(phttps://www.mathgoodies.com/sites/default/files/lesson_images/and.gifq)** | **(phttps://www.mathgoodies.com/sites/default/files/lesson_images/conditional.gif~q)**https://www.mathgoodies.com/sites/default/files/lesson_images/biconditional_transp.gif**[~(phttps://www.mathgoodies.com/sites/default/files/lesson_images/and.gifq)]** | | T | T | F |  | T | F | T | | T | F | T | T |  | T | T | | F | T | T | T | F |  | T | | F | F | T | T | F | T |  |   Konec formuláře |  |  |

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| 9. | |  | | --- | | Which two statements from problem 8 are logically equivalent? | | Začátek formuláře  **phttps://www.mathgoodies.com/sites/default/files/lesson_images/conditional.gif~q and phttps://www.mathgoodies.com/sites/default/files/lesson_images/and.gifq** **phttps://www.mathgoodies.com/sites/default/files/lesson_images/and.gifq and ~(phttps://www.mathgoodies.com/sites/default/files/lesson_images/and.gifq)** **phttps://www.mathgoodies.com/sites/default/files/lesson_images/conditional.gif~q and ~(phttps://www.mathgoodies.com/sites/default/files/lesson_images/and.gifq)** None of the above.  RESULTS BOX:  Konec formuláře | |
| https://www.mathgoodies.com/sites/default/files/lesson_images/tab.gif | | | |
| 10. | |  | | --- | | Choose the word that best completes this sentence: The \_\_\_\_\_\_\_\_\_\_\_\_ of two equivalent statements always yields a tautology. | | Začátek formuláře  Biconditional Conjunction Negation All of the above.  RESULTS BOX:  Konec formuláře | |  |  |