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**1**. Let *p, q*, and *r* be the following statements:
       *p*: Sylvia is at the park.
       *q*: Jamie is on the train.
      *r*: Nigel is in the car.

Translate the following statement into English:  (~q p) ~r

**2.** Construct a truth table for ~q p.

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| **3.** Construct a truth table for (p http://takeexam.next.ecollege.com/ec/courses/42071/CRS-MAT1002-3674588/MAT1002_W3_wedge.jpg~q) ↔ q. **4.** Let p represent the statement, "Jim plays football", and let q represent "Michael plays basketball". Convert the following compound statement into symbols.Jim does not play football or Michael does not play basketball.     **5.** Let p represent a true statement, while q and r represent false statements. Find the truth value of the compound statement.(p http://takeexam.next.ecollege.com/ec/courses/42071/CRS-MAT1002-3674588/MAT1002_W3_Vee.jpgq) http://takeexam.next.ecollege.com/ec/courses/42071/CRS-MAT1002-3674588/MAT1002_W3_wedge.jpg~r**6.** Determine which, if any, of the three statements are equivalent.I) If I am hungry, then I will not be able to concentrate at the meeting.II) Either I am not hungry or I will be able to concentrate at the meeting.III) If I am able to concentrate at the meeting, then I am not hungry. |

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| **7.** Identify which argument is invalid.

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| Either the panda yawns or she is alert.The panda did not yawn. Therefore, she is alert. |

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| If the panda yawns, then she is not alert.The panda is not alert. Therefore, she yawned. |

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| If Tom is cooking, then I am not hungry.I am hungry. Therefore, Tom is not cooking.  |

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| If it is hailing, then I will not go outdoors.If I will not go outdoors, I will not raise any money for charity.Therefore, if it is hailing, then I will not raise any money for charity. |

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| If it is hailing, then I am not going outdoors.It is hailing.Therefore, I am not going outdoors. |

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| 8. Write the statement in symbols using the p and q given below. Then construct a truth table for the symbolic statement. p = The doctor prescribed medicine. q = The patient has recovered. The doctor did not prescribe medicine but the patient recovered. |



