

Practice Test 5: Beginning Sentential Logic

Fill in the correct formula or justification wherever a _____ occurs.

- | | | |
|----|--|-----------------------|
| 1. | $(p \ \& \ q) \rightarrow s$ | A |
| 2. | $r \rightarrow \neg s$ | _____ |
| 3. | Show $(q \ \& \ p) \rightarrow \neg r$ | |
| 4. | $(p \ \& \ q)$ | _____ |
| 5. | Show $\neg r$ | |
| 6. | _____ | AIP |
| 7. | $\neg s$ | _____ |
| 8. | _____ | $\rightarrow E, 1, 4$ |

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|-----|------------------------------|---|
| 1. | $p \rightarrow s$ | A |
| 2. | $\neg(p \rightarrow r)$ | A |
| 3. | Show $\neg(s \rightarrow r)$ | |
| 4. | $(s \rightarrow r)$ | AIP |
| 5. | Show $(p \rightarrow r)$ | |
| 6. | p | ACP |
| 7. | s | _____ |
| 8. | _____ | $\rightarrow E, \underline{\hspace{1cm}}$ |
| 9. | $\neg(p \rightarrow r)$ | R, 2 |
| 10. | _____ | _____ |

Complete the following proof:

- | | | |
|----|---|---|
| 1. | $(p \ \& \ q) \rightarrow (r \rightarrow \neg s)$ | A |
| 2. | $(\neg \neg p \ \& \ t)$ | A |
| 3. | $(t \rightarrow q)$ | A |
| 4. | Show $s \rightarrow \neg r$ | |