

Review Sheet for Final Exam on Logic and Indirect Proofs

Use the laws of inference to complete the following logic proofs.

$$\begin{array}{l} 1. R \vee \sim T \\ (K \vee R) \rightarrow M \\ S \rightarrow T \\ \sim S \rightarrow Z \\ \sim M \\ \hline \therefore Z \text{ or } \sim Z \end{array}$$

$$\begin{array}{l} 2. \sim A \rightarrow F \\ F \rightarrow D \\ \sim (A \wedge B) \\ \sim D \\ \hline \therefore B \text{ or } \sim B \end{array}$$

3. Prove the following by writing an indirect proof. Remember to include the five components of an indirect proof.

Prove: The diagonals of a rectangle are congruent.