

**Worksheet Exercise 2.8.B.**

Name \_\_\_\_\_

Deductions, Supply reasons

Class \_\_\_\_\_ Date \_\_\_\_\_

**Part B.** Supply the missing reasons in the following deductions. Use the standard method of annotating deductions, always citing both the line numbers used, and the abbreviated name of the rule used, in that order. In each deduction, the steps above the horizontal line are the premisses, and they are cited as "Prem".

- |   |   |
|---|---|
| 1) 1. $F \equiv G$ _____<br>2. $E \supset (F \vee G)$ _____<br>3. $\sim G \ \& \ (A \vee B)$ _____<br>4. $(B \supset E) \ \& \ H$ _____<br><hr style="width: 100%;"/> 5. $\sim G$ _____<br>6. $A \vee B$ _____<br>7. $B \supset E$ _____<br>8. $F \supset G$ _____<br>9. $\sim F$ _____<br>10. $\sim F \ \& \ \sim G$ _____<br>11. $\sim(F \vee G)$ _____<br>12. $\sim E$ _____<br>13. $\sim B$ _____<br>14. $A$ _____          | 2) 1. $A \vee (N \vee W)$ _____<br>2. $W \supset \sim(\sim B)$ _____<br>3. $K \ \& \ \sim S$ _____<br>4. $(N \supset L) \ \& \ \sim A$ _____<br>5. $(\sim S \vee M) \supset Q$ _____<br><hr style="width: 100%;"/> 6. $\sim S$ _____<br>7. $\sim S \vee M$ _____<br>8. $Q$ _____<br>9. $\sim A$ _____<br>10. $N \vee W$ _____<br>11. $N \supset L$ _____<br>12. $W \supset B$ _____<br>13. $L \vee B$ _____<br>14. $Q \ \& \ (L \vee B)$ _____  |
| 3) 1. $M \supset (\sim P \vee T)$ _____<br>2. $\sim M \supset Q$ _____<br>3. $(P \vee A) \ \& \ (\sim Q \ \& \ \sim A)$ _____<br><hr style="width: 100%;"/> 4. $P \vee A$ _____<br>5. $\sim Q \ \& \ \sim A$ _____<br>6. $\sim Q$ _____<br>7. $\sim(\sim M)$ _____<br>8. $M$ _____<br>9. $\sim P \vee T$ _____<br>10. $\sim A$ _____<br>11. $P$ _____<br>12. $\sim(\sim P)$ _____<br>13. $T$ _____<br>14. $\sim S \vee T$ _____ | 4) 1. $A \supset (B \supset C)$ _____<br>2. $D \supset (E \ \& \ F)$ _____<br>3. $(B \supset C) \supset (A \supset D)$ _____<br>4. $(\sim A \vee E) \supset (B \supset C)$ _____<br>5. $\sim C$ _____<br><hr style="width: 100%;"/> 6. $A \supset (A \supset D)$ _____<br>7. $(A \ \& \ A) \supset D$ _____<br>8. $A \supset D$ _____<br>9. $A \supset (E \ \& \ F)$ _____<br>10. $A \supset E$ _____<br>11. $\sim A \vee E$ _____<br>12. $B \supset C$ _____<br>13. $\sim B$ _____<br>14. $\sim B \ \& \ \sim C$ _____ |