

Homework Handout #1: Translating from Propositional Logic

Instructions: Use the given interpretations to translate the following sentences of propositional logic into natural English sentences.

A: "Emily is an aardvark"

B: "Emily eats ants"

C: "Emily plays in the sun"

X: "Carolyn is an aardvark"

Y: "Carolyn eats ants"

Z: "Carolyn plays in the shade"

1. $B \bullet \sim Y$

2. $\sim C \vee Z$

3. $\sim X \supset Z$

4. $B \equiv Y$

5. $\sim(A \bullet \sim X)$

6. $(A \bullet Y) \vee (\sim X \bullet B)$

7. $(Y \supset B) \bullet \sim(B \supset \sim Z)$

8. $[(\sim X \vee Z) \supset (\sim C \vee B)] \bullet [(\sim X \bullet A) \supset (\sim Y \bullet Z)]$