

## Math 160 Logic Assignment # 4

1. A very special island is inhabited only by knights and knaves. Knights always tell the truth, and knaves always lie.

(a) You meet two inhabitants: Zed and Alice. Zed tells you, "I am a knight or Alice is a knave."  
Alice tells you, "Of Zed and I, exactly one is a knight."

Can you determine who is a knight and who is a knave?

(b) You meet three inhabitants: Rex, Joe and Sally. Rex says that Sally is a knave. Joe tells you that it's not the case that Rex is a knave. Sally claims, "Neither I nor Rex are knaves."

2. On the fabled Island of Knights and Knaves and Monks, we meet three people, A, B, and C, one of whom is a knight, one a knave, and one a monk. The knight always tells the truth, the knave always lies, and the monk can either lie or tell the truth.

A says: "C is a knave."

B says: "A is a knight."

C says: "I am the monk."

Who is the knight, who the knave, and who the monk?