

Problem Set II

In the middle of the ocean there is the island Kingdom of Samhop. Samhop is a very strange place. All of Samhop's inhabitants are either *knights* that always tell the truth or *knaves* that always lie. Travelers visit the Kingdom of Samhop from all over the world. Travelers are normal people, that is, travelers sometimes tell the truth and sometimes lie.

1. You meet a boy while walking on one of the many beautiful beaches of Samhop. The boy says he is a knave. Is the boy a local or a traveler?
2. Two islands kids, Josh and Maria, are introducing themselves to you. Maria says, "at least one of us is a knave." Who is who?
3. While talking to a knight in the Kingdom of Samhop, I asked him the same question twice, but he gave me two different answers. What did I ask him?
4. While visiting the Kingdom of Samhop, you meet a group of three locals: Henry, Margret and Anna. You ask each of them the same question: How many knights are in your group? Henry replies, "none". Margret says, "one". Can you find out who Anna is? What is her response?
5. While in Samhop, you pass a beautiful garden where three locals, Hannah, Max, and Tom, are watching the sunset. You ask Hannah, "are you a knight or a knave?" Hannah is shy; you cannot hear her quiet answer. So you ask Max, "what did Hannah say?" Max answers, "she said that she is a knave." "Don't trust Max! Max is a knave!" screams Tom. Can you tell us who the locals Hannah, Max, and Tom actually are?