Math 110

Logic puzzle #1

You are travelling in a land of truthtellers and liars. Truthtellers always say the truth, and liars always lie. You need to get to a certain place. You come to a fork in a road, and don't know whether you need to turn right or left.

(a) Here comes a local, but you don't know whether he is a truthteller or a liar. You may ask him two questions. What should you ask to determine which way to go?

(b) You meet two locals, and you know that either they are both truthtellers or they are both liars, but you don't know which is the case. You may ask each of them one question (the two questions may be different). What do you ask each of them?

(c) You meet two locals, and you know that one of them is a truthteller and the other one is a liar, but you don't know which one is which. You may ask each of them one question (the two questions may be different). What do you ask each of them?

(d) You meet two locals, and you don't know whether they are both truthtellers, both liars, or one of each type. You may ask each of them one question (the two questions may be different). What do you ask each of them?

(e) You meet only one local, and you may ask only one question. What do you ask him?