Solve puzzle problems using truth table

Problem: A very special island is inhabited only by knights and knaves. Knights always tell the truth, and knaves always lie.You meet two inhabitants: Zoey and Mel. Zoey tells you that Mel is a knave. Mel says, 'Neither Zoey nor I are knaves.'

So who is a knight and who is a knave?

Solution: we first set up the following statements:

- Z: Zoey is a knight
- M: Mel is a knight
- S: Mel is a knave. Then $S = \sim M$
- T: neither Zoey nor I are knaves. Then $T = Z \wedge M$

Remember that S and T have two sources to get truth values: who said it, and what it was said. Only the two values agree, S or T is a statement. The answer to this problem should make sure that both S and T are statements.

Z	M	S	T
T	T	**T/F**	T/T
T	F	T/T	F/F
F	T	F/F	**T/F**
F	F	**F/T**	F/F

So the answer is: Zoey is a knight and Mel is a knave.