POW #8 - Algebra

The problem this week is an old one, in fact over 500 years old. It goes back to the days in Europe when fairs were common in many cities, and merchants would travel from city to city, selling their various goods and buying other items they desired.

It seems that a humble merchant visited three fairs. At the first fair, early in the morning, he doubled his money selling his products, but spent $30 in food and buying other items. (Note:to make things easier to write, we will use the dollar sign for the unit of money.) At midday at the second fair, he tripled his money and spent $54. At the third fair in the afternoon he quadrupled his money but spent $72.

Upon his return home to his wife and ten children, late that day, he counted the money he had in his bag; there was $48.

Did the man return richer or poorer than when he left? And how much did the man gain or lose, respectively?

Submit your solution in a GoogleDoc that is in your Mathematics Folder. You must explain your solution in sentences! Use the classroom scanner to scan documents and email to yourself.