

Problem of the Week

Proposed by Bernardo Ábrego and Silvia Fernández

October 13-20



There is a fortune-teller at the annual village fair. Nine fortune-tellers out of ten are always right; the other ones are always wrong. Nobody at the fair knows which sort of fortune-teller is there this year. Another annual feature of the fair is the lottery. Each of the twenty boys in the village has an equal chance to be chosen as the Harvest King; and each of the twenty girls has an equal change to be chosen as the Harvest Queen.

- (a) Henry asked the fortune-teller whether he would be chosen, and was told that he would. What are his chances now?
- (b) As he came out, Henry met his friend Anne. He told her about the prediction. She immediately went into the tent and asked whether she would be chosen as Harvest Queen. The fortune-teller told her that she would be chosen. What are her chances now?

This contest is sponsored by the Mathematics Department. Open to all CSUN students. Winner gets \$10 or an equivalent prize. All complete and correct solutions get a certificate. Type and send your solution before October 20th, 9:00PM to silvia.fernandez@csun.edu. All steps of the solution must be clearly justified. For rules, winners, solutions, and more information visit: www.csun.edu/math/probweek