

Problem 1 (5 points): [GH 4.7.9] A game at a fund-raiser carnival involves throwing a dart at a wall of balloons. If the balloon that is popped has money inside, the player wins the money. Suppose 80% of the balloons have no money inside, 15% have \$5 inside, and the remaining 5% have \$50 inside.

If the carnival organizers want to make an average profit of \$.50 per player, what should a player have to pay to play the game? Assume that each player pops exactly one balloon.

Problem 2 (5 points): Mr. and Mrs. Smith are expecting a baby. Mr. Smith has type AB blood, while Mrs. Smith has type B blood. Mrs. Smith's mother is known to have type A blood.

What is the probability that the baby will have type AB blood?