



Problem of the Week

Problem B

Three Coins in a Toss

Jack and Jill have made up a game where they take turns tossing a red coin, a blue coin, and a green coin. Each coin has heads (H) on one side and tails (T) on the other side. They earn points according to the following rules.

1. If the toss results in all three coins being heads (HHH), or all three being tails (TTT), then Jack gets one point.
 2. If the toss results in any other combination of heads and tails (e.g., TTH), then Jill gets one point.
 3. The winner of the game is the player with the most points after 10 tosses of all three coins.
- (a) Play this game with a partner. Assign one player to be Jack and the other to be Jill.
- (b) A game is considered a *fair game* if each player is equally likely to win the game. Explain why this game is **not** a fair game.
- (c) Explain how you could change the rules to make this a fair game.

