

The Three Prisoners Revisited

Three mathematicians were thrown into prison for a crime they did not commit. Their jailer decided to play a little game with them. "I will blindfold you and take you into a room" said the jailer. "In the room will be a table with five small hats. Three of the hats are white, and two are red. You will each pick a hat at random and place it on your head. I will take you out of the room and remove your blindfolds one by one. You will not be able to see your own hat, but will be able to see the hats on the other two men. If you can tell me the color of your own hat I will set you free. But if you guess wrong, I will put you to death. If you cannot tell, you will serve out your sentence. You will each have only one chance to tell me the color of your hat."

The men agreed, and were blindfolded. Each picked out a hat. They were taken out of the room, and the blindfolds were removed one by one. All three men went free.

What color hat did each of the men have, and how did they know?