



June 2021 BRAIN TEASER & SOLUTION

The Merciful King

THE JUNE 2021 BRAIN TEASER

Three prisoners have committed such horrible crimes that they are sentenced to death. The King, who is very merciful, each year pardons a prisoner sentenced to death. Unfortunately, this year there are three. The King asks his top DA to devise a fair method to decide which prisoner should be pardoned. The DA conceives of three white circles and two black circles, one of which will be glued to each prisoner's forehead; the two surplus circles discarded. The prisoners cannot see the circles placed on their own foreheads, however will see the circles on the other two prisoners' foreheads. Whichever prisoner first correctly guesses the color of their own circle, gains the pardon. A failed guess means immediate death. A correct guess by one prisoner means immediate death for the other two prisoners. The prisoners are of fair intelligence and are brought in for the event and explained the rules as the circles are placed on their foreheads, then they are brought face to face with the other prisoners for their fateful guess.

Put yourself in the place of one of the prisoners, who sees the other two prisoners have each a white circle. After about 60 seconds that seem eternal, you fear that if you don't respond you will be beaten to the punch and lose your life.

1.) What is your best guess and why?

2.) Bonus: alternative reasoning to support your guess?

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The answer to **The Merciful King** June Brain Teaser is as follows:

Question 1 Solution: Quickly guess White and claim your pardon!

Question 2 Reasoning: The giveaway is the requirement for a "fair" method. The only fair method is three whites, for otherwise one or more prisoners would be at an advantage or disadvantage. Besides the notion of fairness there are other rationale; the key piece of information is the thinking time and the fact the other prisoners are of fair intelligence. It is obvious that if somebody saw two black circles, they would instantly know they have a white circle. That is not the case as you can see two white circles. However, if you had a black circle, the other two prisoners would be seeing black and white. They would quickly realize that if they had a black circle, the person with the white circle would be seeing two blacks and instantly claim the pardon - absent that they must have a white circle. If you had a black circle, after a few seconds, the prisoners seeing black and white would realize that two blacks are not distributed, claiming they have white. The only reason why they haven't made such claim after say 60 seconds is because likely they too are puzzled seeing two whites, meaning all three prisoners have white circles. You better quickly claim your pardon by guessing white, before they beat you to it!