

Problem of the Week 2./2/10

The Oracle offered three travelers a deal after revealing two crowns of gold with encrusted jewels and three base metal crowns.



The deal worked like this:

The three travelers would close their eyes, and while their eyes were closed, the Oracle's servant would put a crown on each of their heads (and hide the other two crowns). Then, one at a time, the travelers would open their eyes, look at the other two travelers' heads, and try to guess which type of crown was on their own head.

Any traveler who guessed correctly would receive one of the crowns of gold and jewels. But any traveler that guessed wrong would not only not receive a crown as a prize, but they would have to work as a servant for the Oracle for one year. If they decided to "pass" there was no consequence. (The Oracle wanted to be sure that the travelers would only guess if they were 100% positive they were correct.)

The travelers drew numbers to see who would guess first. Then they closed their eyes and the Oracle's servant put a crown on each one's head. Amani, who was to go first, opened her eyes, looked at the others' heads, and said she wanted to pass. She couldn't tell for sure and she didn't want to guess in case she was wrong. Next, Biagio opened his eyes and looked at the others' heads. He also thought about the fact that Amani had said she couldn't tell. Then he said he didn't want to risk it either since he couldn't tell for sure.

Caleb was third. He just stood there with his eyes still closed tightly and a big grin on his face. "I know which crown I have on," he said. And he gave the right answer.

Your task is to figure out which crown Caleb had on and how he knew for sure. Remember: Caleb didn't even look