

2023 Gauss Math Tournament Tiebreaker Round (Div. 2)

June 10, 2023

1. George is on a flight from Boston to Los Angeles with a layover in Chicago. The time zone of Boston is UTC -4 and the time zone of Los Angeles is UTC -7, and the time zone of Chicago is UTC -5. The plane leaves Boston at 4:36 PM and stops in Chicago. When George boards the plane from Chicago to Los Angeles, he sees that the time is 6:57 PM after waiting for 1 hour in Chicago. The flight to Los Angeles takes 4 hours and 5 minutes. Upon arriving in Los Angeles, what will be the total amount of time he has spent in the air?
2. Oh no! Your squire friend placed horses in the wrong stables! If the king sees this, both of you are getting hung. You need to act quickly: what is the fewest possible moves you need to switch the positions of the left and right horses? Horses can only move in an L shape like knights in chess.