

2023 Gauss Math Tournament Tiebreaker Round (Div. 3)

June 10, 2023

1. Three red marbles, four green marbles, and six blue marbles are in a bag. Felix randomly selects two marbles from the bag, without replacement. Given that the marbles have different colors, what is the probability that at least one of them is blue?
2. The graphs of $f(x) = (x - h)^2 + 3$ and $g(x) = 8 - f(8 - x)$ intersect only once. Find the product of all possible values of h .