

MATHCOUNTS® Problem of the Week Archive

High School Graduation – July 7, 2025

Problems

This year, New High School's graduation ceremony was held at the Convention Center. The only seats available for guests of the graduates were in the five balcony sections. There were a total of 1504 seats in the balcony sections. After all guests were seated, one-fourth of the balcony seats remained empty. If only guests sat in the balcony seats, and no guests sat elsewhere, how many guests attended the graduation ceremony this year?

Robin graduated from New High School this year. Her final grade point average earned her the 21st place in their graduating class. If Robin's final average was higher than the final averages of 93.75% of the students in her graduating class, how many students were in New High School's Class of 2025?

At the Convention Center, where New High School's graduation was held, the floor seating alternated between rows of n seats and rows of $n - 1$ seats. With the exception of the top two students, New High School's 2025 graduates sat in floor seats, completely filling 23 consecutive rows. Based on the previous problem, what was the total number of students seated in the 1st and 23rd rows?