

Challenge Problem #6

Challenge problems are worth 30 points each. 6 points will be earned for the correct answer. This includes using **appropriate units**. 12 points will be earned by **showing the mathematical process** used in getting the answer. The last 12 points will be earned by **writing a complete explanation** of the reasoning used to solve the problem. Good luck.

Joe and Mary are in a competition for grades. Each has taken 3 quizzes. Joe's grades are 80%, 87%, and 91%. Mary's grades are 89%, 75% and 88%. If Joe scores 82 on his next quiz, what is the lowest score that Mary must earn if she wants her average (rounded to the nearest percent) to be higher than his?