



December Monthly Math Challenge Middle School Level

Instructions: TEAMS coaches submit student answers to the question(s) below using the submission link on the TEAMS website. All submissions must be made during the month of December. Those submissions with correct answers will be entered into a drawing for a \$25 Visa gift card, which will be sent to the student in care of the TEAMS coach.

Question 1:

The National Safety Council estimated that there were 40,100 traffic accident related deaths in the US in 2017. Autonomous vehicles (AVs) have the potential to significantly reduce traffic accident related deaths.

If AVs decreased traffic accident related deaths by 75% in the first year of adoption, how many traffic accident-related deaths would result that year?

Question 2:

Vehicle autonomy has the opportunity to increase overall vehicle fuel efficiency due to more efficient operation and communication between vehicles and infrastructure.

If the average fuel efficiency (in miles per gallon, MPG) increased from 20 MPG to 25 MPG, how many fewer gallons of gas would be required to complete a 400-mile trip?