



January 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 January. 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:

An automobile is traveling at 22.5 m/sec when the brakes are applied. The car decelerates at a rate of 2.5 m/s^2 for 5.0 sec. What is the speed of the car at the end of 5.0 sec?

Question 2:

The same automobile travels through North Dakota at a speed of 60 mph when they cross the border to Canada. They see a speed limit sign which indicates the speed limit is 60 (kilometers/hour). If they maintain their original speed, how much are they exceeding the speed limit (in km/hour)?

Question 3:

If the driver realizes they are exceeding the speed limit and decelerates to a complete stop, how long does it take to stop if the driver decelerates at a rate of $19,320 \text{ km/hour}^2$?