**M10C – Systems of Equations: Problem Solving Practice Name: \_\_\_\_\_\_\_\_**

*It would be beneficial for you to solve all of these problems to help you prepare for the problem solving sections of the Systems of Linear Equations Unit Exam.*

1. Jason is renting a car for one week. Speed-E-Car Rental offers a compact car for $379 plus $0.10 per kilometre. Easy 4 U Auto offers a compact car for $249 plus $0.35 per kilometre. Use a system of linear equations to determine when each company would be the better choice for Jason.
2. Soo Jin had basketball practice after school. Then, she cycled home. Playing basketball, she expends energy at a rate of 25 kJ per minute. Cycling home, she burns energy at a rate of 21 kJ per minute. She spent a total of 90 min doing both forms of exercise. During this time, she expended a total of 2178 kJ of energy. How much time did she spend doing each activity? (MHR pg. 490)
3. A preschool playground has both bicycles and tricycles. There is a total of 30 seats and 70 wheels. How many bicycles are there? How many tricycles are there? (MHR pg. 489)
4. At the snack bar, five toasted bagels and three cans of juice cost $12.50. Three toasted bagels and six cans of juice cost $12.75. What is the price for one bagel? What is the price for one juice? (MHR pg. 490)
5. The percent of carbohydrates by weight in graphs is 15%. The percent of carbohydrates in an orange is 7%. Danika consumed a total of 325 g of grapes and oranges. The percent of carbohydrates in the mixture she ate was 10%. How many grams of grapes did she eat? How many grams of oranges? (MHR pg. 502)

**Solutions**

1. Easy 4U if he drives less than 520 km. Speed-E-Car if he drives more than 520 km.

2. Basketball – 72 minutes; Biking – 18 minutes

3. Bicycles – 20; Tricycles – 10

4. Bagel - $1.75; Juice - $1.25

5. Grapes – 121.875 g; Oranges – 203.125 g