Name: _____ Date: _____

BLM 8–6

Section 8.2 Extra Practice

1. Model each situation using a system of linear equations.

a) The sum of two numbers is 42. The larger number exceeds the smaller number by 8.

b) Jim has a mass that is 10 kg less than Terry's mass. Together they have a mass of 105 kg.

c) The total value of nickels and dimes is $3.75. There are three times as many nickels as dimes.

d) Three pens and three notebooks cost $6.90. Two notebooks and one pen cost $4.10.

2. Determine a system of equations to represent each situation.

a) Two savings bonds earning 8% interest and 10% interest were purchased. The total annual interest was $496 in the first year, and the total amount invested was $5200.

b) Divide 12 into two parts so that when one number is doubled and the other number is tripled, the sum is 29.

3. Dahlia walks from her house to school at 2 km/h. After school, she jogs back home at 6 km/h and saves 15 min. How far does Dahlia live from school?

4. Sales clerks at an appliance store have two payment options. The first option is to work for 6% straight commission on all sales. The second option is a weekly salary of $250 plus a 2% commission on all sales. Explain which option is better.

5. Sakura and Gabriel are training for a marathon. Sakura starts 50 m ahead of Gabriel and runs at a steady 3.0 m/s. Gabriel runs at a steady 3.5 m/s. At what point will Gabriel overtake Sakura?

6. A bag of coins contains 75 nickels and dimes. The value of the coins is $5.40. Determine the number of nickels and dimes.

7. Five hundred tickets were sold for a music concert. The tickets for adults sold for $7.50. The tickets for children sold for $4.00. Total ticket sales for the performance were $3312.50. How many of each kind of ticket were sold?

8. A plane flew 3000 km with the wind in 5 h. The return flight into the wind took 6 h. Determine the wind speed and the speed of the plane in still air.

9. A car rental agency charges a flat fee plus an additional charge per kilometre. Jalena drove a rental car for 270 km in one day and was charged $46.80. Fala drove 480 km in one day, in a similar car from the same agency, and was charged $65.70. Determine the flat fee and the charge per kilometre.