MC900290272[1]Assignment #7: Systems of Linear Equations /22

**MULTIPLE CHOICE (2 marks)**

**1.** Which statement below is false for this linear system?

3*x* – 4*y* = –9.5 ➀

 ➁

**A.** If you multiply equation ➁ by 8, then add the new equation to equation ➀, you can eliminate *y*.

**B.** The system has one solution because the slopes of the lines are different.

**C.** If you replace equation ➁ with 4*x* – *y* = –4, the new system will have the same solution as the original system.

**D.** The solution of the linear system is: (2, –0.5)

**2.** Which system has exactly one solution?

**A.** *y* = –4*x* – 2 **B.**6*x* – 3*y* = –1 **C.**  **D.** *y* = 3*x* – 2

*y* = –4*x* + 5 –2*x* + *y* = 4  *y* = 3*x* + 2

**SHORT ANSWER (20 marks)**

**3.** Solve each linear system. Explain what you did for part c. (6 marks)

**a)** –3*x* – 6*y* = 9 **b)** 3*x* – 4*y* = 13 **c)** 

2*x* + 2*y* = –4 5*x* + 3*y* = 12 

**4.** Given the linear equation 4*x* – 2*y* = –4, write another linear equation that will form a linear system with each number of solutions. Explain what you did. (6 marks)

**a)** exactly one solution **b)** no solution **c)** infinite solutions

**5. a)** Write a linear system to model this situation: (2 marks)

In Claire’s school, 41 of the 80 grade 10 students were not born in Canada. Sixty percent of the boys and 40% of the girls in grade 10 were not born in Canada.

**b)** Solve this related problem: How many boys and how many girls are in grade 10? Explain what you did. (2 marks)

**6.** A gift shop sold hand-made moccasins. One order of 4 pairs of children’s moccasins and   
3 pairs of women’s moccasins cost $244.65. Another order of 2 pairs of children’s moccasins and 4 pairs of women’s moccasins cost $229.70.   
a) Write a linear system to model this situation. (2 marks)

b) Solve this related problem: What is the cost for a pair of each type of moccasin? (2 marks)