MATH103: Placement Exam
30 minutes – 50 points   Name_____

Circle your answer and Show your work. Show correct units with answer.

1. Solve each of the following whole number equations for variable w. Answers requiring whole number division must be expressed as a quotient and remainder. Circle answers. [10 points each]

   a) $w=(8-2)^2$ b) $w=12^2-7^2$

   c) $w=(25-15)\div 2$ d) $w=72\div 6-2\times[9-(4\times 2)]$

2. A United Airlines Boeing 757-200 series airplane has seating configured with 5 rows and 4 seats across in business class and coach class has 27 rows with 6 seats across. What is the total passenger seating capacity for this plane? Circle your answer and include units.   [10 points]

3. A United Airlines Boeing 757-200 series airplane typically consumes 10,000 gallons of jet fuel when fully loaded and has a maximum range of 3000 miles. How many gallons of jet fuel are consumed per mile? Circle your answer and include units.   [10 points]

4. Solve each of the following fraction equations for variable *y*. Express answers in lowest fraction form. Show your work and circle answers. [10 points each]

a)
$$y = \frac{1}{2} + \frac{3}{8} + \frac{1}{4}$$

b)
$$y = \frac{1}{3} \cdot \frac{3}{4} \div \frac{5}{8} - \frac{1}{10}$$

5. John had a $1200 checking account balance yesterday. Today he used his debit card to buy Movie tickets for $20, purchased gasoline for $40, and a new computer for $720. At the end of the day deposited $450. What is his new checking account balance?   [10 points]

6. At the current exchange rate US$ 1= ¥ **75** (Japanese yen) your business hotel room in Fukuoka, Japan cost ¥ **5000** per night. How much is this equivalent to in US dollars?   [10 points]