

**MTH 110**  
**Quiz 2**  
**Summer 2008**

Show all work in a neat and organized fashion. Clearly indicate your answers.  
50 points possible.

No calculators on this page.

1. (a) (4 pts.) Which is larger?  $\frac{4}{9}$  or  $\frac{3}{7}$

(b) (4 pts.) Which is larger?  $\frac{3}{16}$  or  $\frac{2}{11}$

2. Perform the indicated operation.

(a) (4 pts.)  $\frac{1}{10} \div \frac{7}{9}$

(b) (4 pts.)  $\frac{2}{9} + \frac{3}{11}$

(c) (4 pts.)  $3\frac{1}{5} - 1\frac{1}{3}$

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**3.** (3 pts.) Identify an apparent pattern in the sequence of numbers. Use this pattern to find the next few numbers.

5, 6, 5, 6, 7, 5, 6, 7, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, 9

**4.** (3 pts.) Find  $(x + y)^6$ .

**5.** (4 pts.) On a separate page is a bar graph showing the amount of municipal recycling in New York State (Source: "Where Will the Garbage Go? 2002," New York State Assembly, Legislative Commission on Solid Waste Management, Albany, NY, <http://assembly.state.ny.us/comm/SolidWaste/20031114/>, retrieved 6/16/08.)

Use the graph to predict the amount of municipal recycling (in thousands of tons) in 2012. Briefly explain how you found your estimate.

**6.** (5 pts.) To estimate the number of bass in a lake, wildlife biologists tagged 80 bass and released them in the lake. Later they netted 210 bass and found that 35 of them were tagged. Approximately how many bass are in the lake?

**7.** (5 pts.) Solve the equation.

$$9(6x - 13) = 45$$

**8.** (5 pts.) Solve the equation.

$$7(2x - 8) - 4 = 6(x - 5) + 18$$

**9.** (5 pts.) Three times the sum of eight and a number is 117. Find the number.