Quiz 4A, MTH 2010 - No Calculators

Dr. Graham-Squire, Spring 2017

Name: _____

1. (2 points) Consider the calculations $6 \div 0$ and $0 \div 6$. Calculate each (if possible), and explain your conclusions by either using the definition of division, writing word problems or interpreting division as multiplication by an unknown.

2. (3 points) If the federal debt is \$11 trillion, and if this debt were divided equally among 300 million people, then how much would each person owe? Which answer below is the best estimate of the answer to this question?

    (A) \$400,000

    (B) \$40,000

    (C) \$4,000

    (D) \$400

3. (2 points) Bobby has 2 cups of flour, and he wants to make as many brownies that he can. The brownie recipe calls for $\frac{4}{5}$ cup of flour, and Bobby has enough of all the other ingredients, so flour is the limiting factor. Bobby reasons as follows: "If I make 2 batches of the recipe I will use up $2 \cdot \frac{4}{5} = \frac{8}{5}$ cups of flour. Since I have 2 cups of flour, this will leave me with $\frac{2}{5}$ left, so I can make a total of $2\frac{2}{5}$ batches of brownies." Is Bobby's reasoning correct? If so, explain why. If not, explain why not and what the correct answer should be. A diagram might help, but is not necessary.

4. Which of the following is NOT a word problem for the division $\dfrac{3}{4} \div \dfrac{1}{2}$?

   (A) A crew is building a road. So far, the crew has completed $\frac{3}{4}$ of the road, and this portion is $\frac{1}{2}$ mile long. How long will the finished road be?

   (B) If $\frac{3}{4}$ cup of sugar makes $\frac{1}{2}$ of a batch of snickerdoodles, then how many cups of sugar are required for a full batch of snickerdoodles?

   (C) Jane has $\frac{3}{4}$ cup of glitter. Jane has a bunch of small cubes that each hold $\frac{1}{2}$ cup. How many cubes can Jane fill up?

   (D) If $\frac{1}{2}$ cup of sugar makes 1 batch of cookies, then how many batches of cookies can you make with $\frac{3}{4}$ cup of sugar?