EXAM 3
Math 151
April 12, 2007

Name _____

You must show all your work. Partial credit will be given.

1. Is 13075 divisible by 45? Is 31,024,456 a multiple of 4? Explain your reasoning, do NOT multiply or divide.

2. Find factor trees for each of the numbers 1593 and 3741.

3. Someone claims to have found two odd, prime numbers that add together to a different prime number. Do you believe this claim? If so convince me why it is true, if not explain why not.

4. Find the GCF and the LCM of the two numbers 38, 68.

5. Tilda's car gets 34 miles per gallon and Naomi's gets 8 miles per gallon. When traveling from Washington D.C. to Philadelphia they both used a whole number of gallons of gasoline. How far is it from Philadelphia to Washington D.C.?

6. Reduce both $\frac{14}{98}$ and $\frac{8}{56}$ to simplest form and determine whether they are equal. If they are not equal decide which is larger and which is smaller.

7. I am a proper fraction (so can not be made into a mixed number). The sum of my numerator and denominator is a one-digit perfect square and their product is a perfect cube. What fraction am I?

8. Create a careful illustration of the fraction problem $\frac{2}{5} + \frac{1}{3}$.

9. Compute $\frac{7}{8} + \left(\frac{2}{3} + \frac{1}{6}\right)$ and $\left(\frac{7}{8} - \frac{2}{3}\right) - \frac{1}{6}$

10. Karl wants to fertilize his 6 acres. If it takes $8\frac{2}{3}$ bags of fertilizer for each acre, how many bags of fertilizer should Karl buy?

11. Calculate $11\frac{3}{5} + 9\frac{8}{9}$ and $13\frac{2}{3} - 7\frac{5}{8}$

12. Use a rectangular array to illustrate the fraction problem $\frac{2}{3} \cdot \frac{4}{5}$.

13. Now illustrate, in some fashion, the fraction problem $3 \div \frac{3}{4}$.

14. Calculate $\frac{3}{8} \cdot \frac{5}{6}$ and $\frac{4}{3} \div \frac{2}{5}$.

15. Calculate $\frac{2}{3} \cdot \left(\frac{4}{5} - \frac{1}{2}\right) + \left(\frac{5}{6} \div \frac{1}{3}\right)$.

16. A recipe calls for $\frac{2}{3}$ of a cup of sugar. You find that you only have $\frac{1}{2}$ a cup of sugar left. What fraction of the recipe can you make?

17. Kids belonging to a Boys and Girls Club collected cans and bottles to raise money by returning them for the deposit. If 54 more cans than bottles were collected and the number of bottles was $\frac{5}{11}$ of the total number of beverage containers collected, how many bottles were collected.