

**University of South Carolina**  
**Math 221: Math for Elementary Educators**  
**Instructor: Austin Mohr**  
**Section 001**  
**Spring 2010**

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**Test 2**

1. Draw a picture to solve each problem using the specified method.
  - a.  $4 - -3$ , set model
  - b.  $-8 \div 4$ , partition model
  - c.  $\frac{5}{7} - \frac{1}{2}$ , fraction tiles
  - d.  $\frac{7}{3} \div \frac{2}{3}$ , fraction tiles
  
2. Tell, without dividing, whether 3,435 is divisible by each of the following numbers. How do you know?
  - a. 2
  - b. 3
  - c. 4
  - d. 5
  - e. 15
  
3. For the following questions, use the fact that
$$38,808 = 2^3 \cdot 3^2 \cdot 7^2 \cdot 11$$
$$14,700 = 2^2 \cdot 3 \cdot 5^2 \cdot 7^2.$$
  - a. Find the greatest common divisor of 38,808 and 14,700.
  - b. Find the least common multiple of 38,808 and 14,700.
  - c. Reduce the fraction  $\frac{38808}{14700}$ .
  
4. What has to be true about  $a$  and  $b$  to make each statement true?
  - a.  $\frac{a}{3} > \frac{b}{3}$
  - b.  $\frac{7}{a} > \frac{7}{b}$
  - c.  $\frac{a}{3} = \frac{b}{6}$
  
5. Explain with words and/or pictures why each statement is true. (Simply saying that they are both the same number is not an explanation.)
  - a. adding a negative is the same as subtracting a positive
  - b. negative times negative is positive