

University of South Carolina
Math 221: Math for Elementary Educators
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Section 001
Spring 2010

Test 2

1. Draw a picture to solve each problem using the specified method.
 - a. $3 - ^{-}2$, set model
 - b. $^{-}6 \div 2$, partition model
 - c. $\frac{4}{5} - \frac{1}{2}$, fraction tiles
 - d. $\frac{5}{2} \div \frac{3}{4}$, fraction tiles

2. Tell, without dividing, whether 3,675 is divisible by each of the following numbers. How do you know?
 - a. 2
 - b. 3
 - c. 5
 - d. 6
 - e. 15

3. For the following questions, use the fact that
$$12,936 = 2^3 \cdot 3 \cdot 7^2 \cdot 11$$
$$441,000 = 2^2 \cdot 3^2 \cdot 5^2 \cdot 7^2.$$
 - a. Find the greatest common divisor of 12,936 and 441,000.
 - b. Find the least common multiple of 12,936 and 441,000.
 - c. Reduce the fraction $\frac{12936}{441000}$.

4. What has to be true about a and b to make each statement true?
 - a. $\frac{a}{5} > \frac{b}{5}$
 - b. $\frac{3}{a} > \frac{3}{b}$
 - c. $\frac{a}{2} = \frac{b}{6}$

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