MA 130 SECTION 6.3 MULITPLICATION & DIVISION OF RATIONAL NUMBERS

HOMEWORK: 1 – 65 odd

OBJECTIVES:

- Develop and explain algorithms for arithmetic with fractions (rational numbers).
- Employ pictorial models to represent arithmetic with fractions (rational numbers).

1. Use a diagram to compute $\frac{1}{4} \times \frac{2}{3}$.

2. Use the definition of Multiplication of Rational Numbers: $\frac{a}{b} \times \frac{c}{d} = \frac{ac}{bd}$ to find $\frac{1}{4} \times \frac{2}{3}$.

3. Explain why, in multiplying $\frac{7}{10} \times \frac{5}{9}$, one can simplify the computation by changing the 10 and 5 to 2 and 1.

4. Use a measurement picture to explain how to compute $3 \div \frac{1}{2}$.

5. Use a common denominator to compute $3 \div \frac{1}{2}$.

6. Use a parts-of-a-whole diagram to explain how to compute $\frac{1}{2} \div 3$.

7. Use the Definition of Division of Rational Numbers: $\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \times \frac{d}{c} = \frac{ad}{bc}$ $(c \neq 0)$ to compute $\frac{1}{2} \div 3$.

8. Compute $2\frac{1}{6} \times 3\frac{1}{3}$ with an area diagram.

9. Compute $2\frac{1}{6} \times 3\frac{1}{3}$ using the definition of rational number multiplication.