

MA 201

1. Use Cuisenaire Rods to explain why $\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$.
2. Use Cuisenaire Rods to explain why $\frac{2}{5} + \frac{3}{4} \neq \frac{2+3}{5+4}$.
3. How should we define addition of fractions?
4. How should we define subtraction of fractions?
5. Do we need to find common denominators before we add fractions?
6. Do we need to find common denominators before we subtract fractions?
7. Use the area model to explain why $\frac{4}{7} \times \frac{3}{5} = \frac{4 \times 3}{7 \times 5}$.
8. How should we define multiplication of fractions?
9. How should we define division of fractions?
10. Do we need to find common denominators before we multiply fractions?
11. Do we need to find common denominators before we divide fractions?
12. Use the missing factor model to explain the following **theorem**.

The Invert and Multiply Algorithm for Division of Fractions and Rational Numbers (page 378)

$$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \cdot \frac{d}{c}, \text{ where } \frac{c}{d} \neq 0$$

13. What is meant by $4\frac{1}{5}$?
14. Convert $4\frac{1}{5}$ to an improper fraction. Use a diagram to explain your answer.
15. Use the area model to evaluate $2\frac{1}{3} \times 4\frac{1}{5}$?
16. Find the reciprocal of $\frac{5}{3}$.
17. Find the reciprocal of $2\frac{1}{9}$.
18. Find a rational number between $\frac{4}{5}$ and $\frac{5}{6}$
19. Find a rational number between $\frac{3}{5}$ and $\frac{1}{6}$
20. Find a rational number between $\frac{1}{3}$ and $\frac{2}{3}$
21. Do numbers 17 and 19–21 on pages 382–383 of your textbook.
22. Do number 21 on page 398 of your text.