Math Chapter 2 Study Guide	
Least Common Denominator	Unlike fractions are fractions with different denominators. You can add and subtract unlike fractions with the help of fraction bars.
Benchmark	A benchmark is a reference point on a number line that is useful for rounding fractions.
Adding and Subtracting Fractions	**Step 1** $\frac{5}{6} = \frac{5 \times 9}{6 \times 9} = \frac{45}{54}$ $+\frac{4}{9} = \frac{4 \times 6}{9 \times 6} = +\frac{24}{54}$ Multiply 6 and 9 to find a common denominator, 54. Use the common denominator to write equivalent fractions.
To add or subtract unlike fractions without using models, find equivalent fractions. Equivalent fractions can be written by using a common denominator or the least common denominator (LCD). The LCD is the least common multiple (LCM) of two or more denominators.	**Step 1** $\frac{5}{6} = \frac{5 \times 9}{6 \times 9} = \frac{45}{54}$ $+\frac{4}{9} = \frac{4 \times 6}{9 \times 6} = +\frac{24}{54}$ Multiply 6 and 9 to find a common denominator, 54. Use the common denominator to write equivalent fractions.
Step 1 $\frac{5}{6} = \frac{5 \times 9}{6 \times 9} = \frac{45}{54}$ $+\frac{4}{9} = \frac{4 \times 6}{9 \times 6} = +\frac{24}{54}$ Multiply 6 and 9 to find a common denominator, 54. Use the common denominator to write equivalent fractions.	**Step 2** $\frac{5}{6} = \frac{45}{54}$ $+\frac{4}{9} = +\frac{24}{54}$ $\frac{69}{54}$, or $1\frac{5}{18}$ Add the numerators. Write the sum over the denominator. Write the answer as a fraction or as a mixed number.
Adding and Subtracting Mixed Numbers	Add. $3\frac{2}{3} + 2\frac{3}{4}$ $3\frac{2}{3} = 3\frac{8}{12}$ $+2\frac{3}{4} = 2\frac{9}{12}$ $5\frac{17}{12} = 5 + 1\frac{5}{12} = 6\frac{5}{12}$ Write equivalent fractions, using the LCD, 12. Add fractions. Add whole numbers. Rename the fraction as a mixed number. Rewrite the sum.

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	Estimate. $4\frac{4}{5}$ is close to 5, and $2\frac{1}{4}$ is close to 2. So, the difference is about 3. $4\frac{4}{5} = 4\frac{16}{20}$ Write equivalent fractions using the LCD, 20. $-2\frac{1}{4} = -2\frac{5}{20}$ Subtract fractions. $\overline{\phantom{-2\frac{1}{4}}}$ $2\frac{11}{20}$ Subtract whole numbers.
Subtraction of Fractions with Renaming	**Step 1** $8\frac{1}{3} = 8\frac{4}{12}$ The LCD of $\frac{1}{3}$ and $\frac{7}{12}$ $-4\frac{7}{12} = -4\frac{7}{12}$ is 12. Write equivalent fractions using the LCD.
In the example, borrow 1 from the 8. Then add 12 to the 4 (numerator). That gives you 16. Why? Because 12/12 = 1. Remember you borrowed 1 from the 8. Now subtract 7 from 16.	**Step 2** $8\frac{1}{3} = 8\frac{4}{12} = 7\frac{16}{12}$ $\frac{7}{12}$ is greater than $\frac{4}{12}$, so rename $8\frac{4}{12}$. $-4\frac{7}{12} = -4\frac{7}{12} = -4\frac{7}{12}$ $\overline{}$ $8\frac{4}{12} = 7 + \frac{12}{12} + \frac{4}{12} = 7\frac{16}{12}$. $3\frac{9}{12}$, or $3\frac{3}{4}$ Subtract, and then simplify.