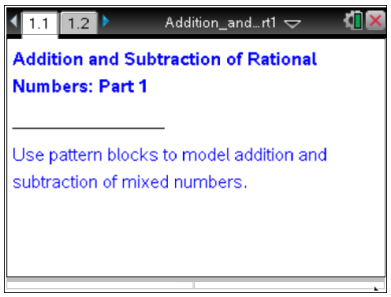
Addition and Subtraction of Rational Numbers—Part 1
Student Activity

Name _____

Class _____

Open the TI-Nspace document *Add_Sub_Rational_Numbers_Part1.tns.*



In this activity, you will model operations (addition and subtraction) with mixed numbers by using pattern blocks.

Page 1.3 will help you model addition and subtraction of mixed numbers. It is divided into two work areas.

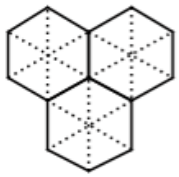
- In the top work area, you are given an expression to evaluate and a set of pattern blocks.
- The work area below the line is reserved for modeling the problem by *using* the pattern blocks.
- The message at the bottom of the page gives you suggestions for the next step you need to do in order to evaluate the given expression.

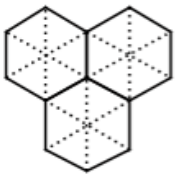
1. Consider the yellow hexagon to have a value of 1. For each shape shown on page 1.3, record the value of the fractional representations in the table below.

Pattern Block	Fraction
	1
	
	
	
	

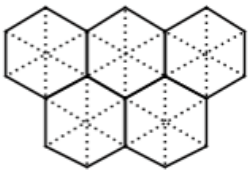
2. Find the value of $2\frac{1}{6}+1\frac{2}{3}$ using the pattern blocks on page 1.3.

   a. Which pattern blocks did you use to model the first and second mixed number?





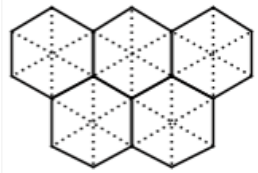
   c. Which pattern blocks did you use to model the sum of the two mixed numbers?



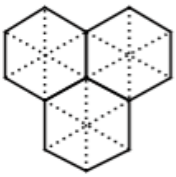
   d. Explain how your visual representation of the sum is equivalent to the numerical representation of the sum.

3. Select the bottom box in the top left corner of page 1.3 to generate the subtraction problem, $4\frac{1}{6} - 2\frac{1}{2}$. Evaluate the difference, and answer the questions below (use colored pencils to record your block patterns).

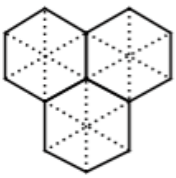
   a. Which pattern blocks did you use to model the first mixed number?



   b. Which pattern blocks did you use to model the second mixed number?



   c. Which pattern blocks did you use to model the difference of the two mixed numbers?



   d. Explain how your visual representation of the difference is equivalent to the numerical representation of the sum.