Funky Fractions

Students will:
- Classify counting numbers into subsets
- Find factors and multiples
- Analyze and use divisibility rules
- Find equivalent fractions and compare fractions using <, >, or =
- Add and subtract fractions and mixed numbers with unlike denominators
- Use common fractions (proper and improper) and decimal fractions interchangeably
- Model multiplication and division of fractions (denominators not to exceed 12)
- Estimate products and quotients
- Use variables to represent unknown quantities
- Use formulas to represent the relationship between quantities

Classroom Cases:
1. Cups are sold in packs of 15 and sell for $1.50. Drinks are sold in cases of 24 and sell for $6.75. Write algebraic expressions for the total cost of the cups and the total cost of the drinks. How much will it cost to provide drinks to 36 students?

Case Closed - Evidence:
The total price of the cups is $1.50 \(c\) or 1.50\(c\) where \(c\) is the number of packs of cups.

The total price of the drinks is $6.75 \(d\) or 6.75\(d\) where \(d\) is the number of cases of drinks. You’ll need three packs of cups and two cases of drinks to provide drinks for 36 students.

Substituting 3 for the \(c\) and 2 for the \(d\), you can find the total price for the drinks and cups.
\[(1.50 \times 3) + (6.75 \times 2) = 18.00\]

2. Joey and Sarah are sharing a pizza that has been cut into 10 slices. Joey eats six of the pizza slices and Sarah eats four slices. What part of the pizza did each of them eat? Write your final answer in simplest form.

Case Closed - Evidence:
Joey ate 6/10 of the pizza which is the same as 3/5. Sarah ate 4/10 of the pizza which is the same as 2/5.

3. For each pattern below, determine the rule. Write each rule as an algebraic expression. Find the next three numbers in the pattern.

a. 1, 1.5, 2, 2.5, 3, 3.5, ______ , ______ , ______

b. ¼ , ½ , ¾ , 1, 5/4, ______ , ______ , ______

Case Closed - Evidence:

a. 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5
Rule: \[n + 0.5\] where \(n\) is the previous term

b. 1/4, 1/2 , 3/4 , 1, 5/4, 1¼ , 1 ¼ , 2
Rule: \(b + \frac{1}{4}\) where \(b\) is the previous term

Clues:
Writing a fraction in lowest terms or simplifying a fraction has also been called reducing a fraction. However, the term “reduce” means to make smaller and the new fraction is not smaller in value than the original fraction. Now, students encounter the terms “simplify” or “lowest terms” in order to avoid confusion about the size of the fraction.