**Practice Problems**

1. Explain why 1/11>1/12
2. Explain how to find which is larger using 3rd grade strategies:
	1. 3/8, 3/7
	2. 7/9, 8/9
	3. 3/7, 5/9
	4. 12/14, 13/15
3. Explain how to fold an equivalent fraction for 5/8. Draw pictures to help you explain.
	1. Using squares
	2. Using strip
	3. Using circles
4. Explain why . (Bonus if you start with the diagram.)
5. Explain,  using teacher language, how to subtract 3/4-2/3
6. Estimate the sums and differences and explain your estimation. (Show on a number line)
	1. 1/4+2/3
	2. 1 5/8 - 1/3
7. Explain why 

**Rubrics/what I’m looking for**:

1. An in-words explanation connecting the denominator to the size of a unit fraction using the idea of splitting or sharing a whole.

2. Choose and implement an appropriate strategy for the numbers from the strategies discussed in class:

* Equal denominator (explain unit fraction size, number of units and total)
* Equal numerator (explain unit fraction size, number of units and total)
* Transitive (explain comparison to 1/2 or other benchmark fraction for each fraction using multiplication or division, and the final comparison)
* Residual (explain difference from 1, unit fraction size and number of units in the difference, compare the differences, compare the original fractions)

3. For each visual, start with the given fraction (5/8) and show how to subdivide it to get an equivalent fraction. Explain the process of paper folding or subdividing to get smaller equal parts. Tell the equivalent fraction.

4.

* Start by showing 3/4 in a visual of your choice, and
* show and explain how to subdivide each fourth into 5 smaller parts.
* Explain why the number of small parts shaded is 3 × 5.
* Explain why the number of parts in 1 whole is 4 × 5.
* Explain that 3/4 and are two names for the same fraction because they name the same shaded area.

(An explanation that includes these same bullets will get full credit even if it starts with the numbers and from there explains how to get the visual. A small number of bonus points will be given to excellent answers that start with the visual and use it to explain the numerical/symbolic solution).

5.

* Explain that we need equivalent fractions with the same denominator before we can subtract
* Explain how to find appropriate numbers to multiply the denominators by to get the same unit fraction size.
* Show the computation of the equivalent fractions
* Explain subtracting the numerators to get the difference.

6. Your estimated value should be pretty close to the right place on a number line, and your explanation should show an understanding of fraction size, using ideas such as:

* Benchmark values for the fractions, and the relationship of the fractions to the benchmarks (is the number a little more or a little less than the benchmark),
* Residuals of the fractions (distance to nearest unit)
* Comparison of the unit fractions

7. A full-credit answer will explain why the answer is not reasonable (using estimation and comparison) as well as explaining that you need fractions with the same size unit (common denominator) before you add up how many units there are.