1. [8 pts] Explain why the fraction \( \frac{5}{0} \) makes no sense, referring to one of the “part-of” meanings of a fraction. (1 or 2 sentences)

2. [12 pts] If 2 orange Fraction Tiles represent the fraction \( \frac{8}{3} \), how could you represent the fraction \( \frac{1}{2} \)? Clearly explain your reasoning.
3. [10 pts] Find a fraction that is equivalent to $\frac{15}{8}$, and for which the sum of numerator and denominator is 368. Show scratch work, but you need not explain.

4. Consider the fractions $\frac{30}{41}$ and $\frac{3}{4}$.

   (a) [10 pts] Demonstrate two different techniques for determining which of these fractions is larger.

   (b) [4 pts] Demonstrate any technique for finding a fraction between these two.
5. [6 pts] Explain why a common denominator is necessary for adding and subtracting fractions. (1 or 2 sentences)

6. [8 pts] Subtract entirely in mixed number notation: \(7 \frac{1}{3} - 2 \frac{3}{4}\). Show clear work.

7. [6 pts] Write the number of one problem among Problems #1-6 on this exam in which you used the Fundamental Law of Fractions. Then write and circle the initials “FLF” next to where you applied it \textbf{in that problem}.

8. [8 pts] Daphne drew the following diagram to compute \(\frac{5}{8} \times \frac{3}{2}\). She claims that her picture shows that the denominator of the product should be 32. Explain whether she is right or wrong and why. (1 or 2 sentences)
9. Consider the computation $15 \div 3\frac{1}{2}$.

(a) [6 pts] Explain how estimation could help a child to know whether this quotient is larger or smaller than 5. Do **not** actually compute the quotient. (1 or 2 sentences)

(b) [10 pts] Now draw a diagram representing this computation. Circle your final answer, and explain **only** how the “left-over” is interpreted. (1 sentence)

10. [12 pts - 4 each] Correctly spell the name of the property best indicated by each number sentence below.

(a) \( \left( \frac{1}{3} + \frac{3}{4} \right) + \left( 0 + \frac{1}{2} \right) = \left( \frac{1}{3} + \frac{3}{4} \right) + \frac{1}{2} \)

(b) \( \left( \frac{1}{3} + \frac{3}{4} \right) + \left( 0 + \frac{1}{2} \right) = \left( \frac{3}{4} + \frac{1}{3} \right) + \left( 0 + \frac{1}{2} \right) \)

(c) \( \left( \frac{1}{3} + \frac{3}{4} \right) + \left( 0 + \frac{1}{2} \right) = \left( \frac{1}{3} + \frac{3}{4} \right) + \left( 0 \cdot \frac{2}{5} + \frac{1}{2} \right) \)