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Group Members:

1. Compute $\frac{-4}{5} + \frac{4}{5}$ algebraically. Justify each equality.

2. Compute $\frac{4}{-5} + \frac{4}{5}$ algebraically. Justify each equality.

3. Compute $-\frac{4}{5} + \frac{4}{5}$ algebraically. Justify each equality.

4. Use fundamental law to show $\frac{-4}{5} = \frac{4}{-5}$.

5. Use fundamental law to show $\frac{-4}{-5} = \frac{4}{5}$.

6. Explain why you cannot use fundamental law to show $-\frac{4}{5} = \frac{-4}{5}$.

7. Show algebraically that $3\frac{2}{5}$ equals $\frac{17}{5}$. Justify each equality.

8. (a) You probably would not have a student convert a mixed number to an improper fraction in the way you did in problem 7. Explain to a student the standard algorithm to convert a mixed number to an improper fraction.

(b) Explain why the algorithm you gave above works.

9. Explain to a student the standard algorithm to convert an improper fraction to a mixed number.

10. Explain why the algorithm you gave above works.

11. You give Max the problem $3\frac{4}{5} - 2\frac{1}{2}$. Max does the problem in the following way.

$$3 - 2 = 1$$

$$\frac{4}{5} - \frac{1}{2} = \frac{8}{10} - \frac{5}{10} = \frac{3}{10}$$

Therefore Max concludes that $3\frac{4}{5} - 2\frac{1}{2} = \frac{3}{10}$.

(a) Is Max's answer correct?

(b) Is Max's method correct? Explain.

12. You then give Max the problem $3\frac{1}{5} - 2\frac{1}{2}$. He tries to do it the same way, but gets confused.

(a) What could be confusing Max?

(b) What can you say to help him?