FTC 5 Name _____
Grade: 5th

Show all of your work. All work and explanations should be YOUR OWN WORK and not that of AI, a google search, or another human helping you. Use additional paper if necessary.

1. (2pts) A student uses long division to divide 132 by 8. He gets a quotient of 16 and a remainder of 4. To check his work, he uses his calculator and gets 16.5. He comes to you for help understanding why these two answers look different. How do you help him understand that these are, in fact, the same number?

2. (3pts) A number code is used to unlock a secret treasure. The numbers of the code must be entered in the correct order. The first number is a positive odd number less than 20 that has 2 digits that are both the same. The second number is ½ of the number that is ¼ of 16. The third number is the product of the first two numbers then doubled. What is the code? Explain your reasoning along the way and show your work.

3. (3pts) Use the word problem below to answer the questions.

How many groups of ½ are in 6?

   a. What operation is implied? Why?

   b. Draw a picture to go along with this problem.

   c. Solve this problem using the operation from part a and the picture from part b.

4. (2pts) A student brings you their work for division with fractions and asks if this technique of getting a common denominator is mathematically correct. How do you reply? Will this technique always work? If yes, explain why. If no, show where it fails.

$$\frac{1}{2} \div \frac{1}{3} = \frac{3}{6} \div \frac{2}{6} = 3 \div 2 = \frac{3}{2}$$