Unit 1 Quiz A

Randomly select 3 questions to ask members of the group requesting the next set of assignments. If they get all questions correct, give them the entire stack of quizzes and assignments so that they can quiz the next group. If they get any question wrong, send them back to their seats to review and then try again in 10 minutes or more.

1. Explain what makes two fractions equivalent. Give me an example of two equivalent fractions and explain why they represent the same amount.

   Answer: Two fractions are equivalent when they represent the same value, even though they use different numbers. You can find equivalent fractions by multiplying or dividing both the top (numerator) and bottom (denominator) by the same non-zero number. For example, 1/2 = 2/4 because when you multiply both the top and bottom of 1/2 by 2, you get 2/4. Both fractions represent half of a whole.

2. When adding fractions with different denominators, like 1/2 + 1/3, what's the first step we need to take and why is this step necessary?

   Answer: The first step is to find a common denominator - a number that both denominators can divide into evenly (their least common multiple). We need this step because fractions can only be added when they represent pieces of the same size. For example, with 1/2 + 1/3, we need to convert both fractions to sixths because 6 is the least common multiple of 2 and 3.

3. If I multiply a fraction by 3/3, what happens to its value and why?

   Answer: Multiplying a fraction by 3/3 doesn't change its value because 3/3 equals 1, and multiplying any number by 1 gives you the same number. This is called multiplying by a form of 1.

4. Explain why when we divide a fraction by a whole number, like 1/2 ÷ 3, the result is always smaller than the original fraction?

   Answer: When dividing a fraction by a whole number (like 1/2 ÷ 3), the result is smaller because you're splitting the original fraction into that many equal parts. For example, 1/2 ÷ 3 means you're dividing one-half into three equal pieces, resulting in a smaller fraction (1/6).

5. What is a reciprocal of a fraction and how can we find it? Why is the concept of reciprocals important when dividing fractions?

   Answer: A reciprocal of a fraction tells you how many times the fraction goes into 1. You find it by flipping the numerator and denominator. It's important when dividing a number by a fraction because dividing by a fraction is the same as multiplying by its reciprocal.

6. When we divide two fractions that are equal to each other, like $\frac{1}{3} \div \frac{1}{3}$, why do we always get 1 as the answer?

   Answer: When dividing equal fractions (like 1/3 ÷ 1/3), we always get 1 because any number divided by itself equals 1. This is true for fractions too. When we divide equal fractions, we're essentially asking "how many times does this fraction go into itself?" and the answer is always once, or 1.