Questions About Fractions

Answer each question, choose the correct answer or fill in the blank as appropriate.

1. You are **required** to find a common denominator when performing which of the following operations: addition, subtraction, multiplication, or division?

_____

2. When multiplying with mixed numbers, what is the first step?

_____

3. When multiplying proper fractions, what should you do first?

_____

4. What is the LCD for 30, 35 and 45? _____

5. The fraction $\frac{13}{16}$ is _____ $\frac{19}{24}$. (Fill in the blank with "greater than", "less than" or "equal to").

6. What is the difference in meaning between $2\frac{3}{4}$ and $2\left(\frac{3}{4}\right)$?

7. Given $\frac{9}{12} = \frac{\quad}{20}$, what is the numerator of the second fraction? How did you find it?

8. Reduce $\frac{220}{286}$. Explain how to use prime factorization to reduce the fraction.

9. Explain the error: $\frac{1}{2} + \frac{2}{3} = \frac{3}{5}$

Answers:

1. You must find a common denominator when adding or subtracting fractions.

2. When multiplying mixed numbers, you must first change the mixed numbers to improper fractions.

3. When multiplying proper fractions, you should first divide out any common factors shared by a numerator of any of the fractions being multiplied and a denominator of any of the fractions being multiplied.

4. The LCD is 1,890.

5. The fraction $\frac{13}{16}$ is larger than $\frac{19}{24}$. To figure this out, rewrite both fractions with a common denominator of 48 and then compare their numerators.

6. The fraction $2\frac{3}{4}$ means $2+\frac{3}{4}$ and the fraction $2\left(\frac{3}{4}\right)$ means $2 \bullet \frac{3}{4}$.

7. The numerator of the second fraction is 15. To find it, reduce the first fraction to lowest terms, and then find the requested numerator.

8. Prime factor the numerator and the denominator, then divide out the common factors. The answer in lowest terms is $\frac{10}{13}$.

9. The error here is adding the fractions without getting a common denominator. Also, when adding fractions, never add the denominators.