Name _____ Date _____

Adding and Subtracting Rational Expressions - Step-by-Step Lesson

a. Simplify and express your answer as a single fraction in simplest form.

$$\frac{cd}{4} + \frac{3d}{3}$$

Explanation:

In order to add the expressions, they must have a common denominator. The least common multiple (LCM) of 4 and 3 is 12.

$$\frac{cd}{4} + \frac{3d}{3}$$ First, rewrite each expression with a denominator of 12.

$$\frac{cd}{4} \times \frac{3}{3} + \frac{3d}{3} \times \frac{4}{4}$$

$$\frac{3cd}{12} + \frac{12d}{12}$$

Now that the expressions have the same denominator, we can add the numerators. This would allow us to express it as one fraction.

$$\frac{3cd + 12d}{12}$$ We need to reduce the fraction.

All whole numbers have a GCF of 3. We divide all terms by 3.

Answer is: $\dfrac{cd + 4d}{4}$