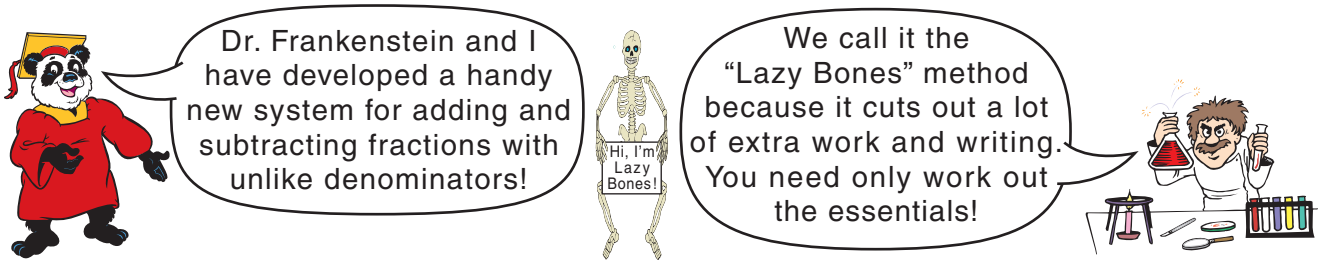
LAZY BONES METHOD OF ADDING AND SUBTRACTING WITH UNLIKE DENOMINATORS



Dr. Frankenstein and Professor Panda have made adding and subtracting fractions with different denominators as easy as 1-2-3 and reduce! Just follow the steps below to see how their handy new system works.

STEPS	EXAMPLE
❶ **Factorize**: Write the prime factorization of each fraction's denominator (in parentheses) both above and below the fraction bar of the other fraction.	❶ $\frac{7}{(3\times 5)} + \frac{4}{(2\times 2\times 3)}$ $\frac{7}{(3\times 5)} + \frac{4}{(2\times 2\times 3)}$
❷ **Cancel and multiply**: Cancel any numbers that appear in ***all four sets of parentheses***. After cancelling, multiply the numerators and denominators by the numbers remaining in the parentheses above or below them.	❷ $\frac{7}{(3\times 5)} + \frac{4}{(2\times 2\times 3)}$ $7\times 5 = 35$ $\quad 4\times 2\times 2 = 16$ $\frac{7}{12} + \frac{4}{15}$ $12\times 5 = 60$ $\quad 15\times 2\times 2 = 60$
❸ **Rewrite and add or subtract**: Use the products from step ❷ to rewite the problem. The fractions should now have a common denominator, so you can add or subtract the numerators and keep the denominator the same!	❸ $= \frac{35}{60} + \frac{16}{60} = \frac{51}{60}$
❹ **After finishing step ❸, check to see if your answer needs to be reduced.**	❹ $\frac{51\div 3}{60\div 3} = \frac{17}{20}$
Here's another example. Remember, cancel only factors that appear in ***all four sets of parentheses***. If all the numbers in the parentheses get cancelled, just multiply by one. Tip: If you find the GCF of the two denominators, you can fill the parentheses with factorizations that use the GCF instead of prime factorizing.	**EXAMPLE 2** $5\times 5 = 25$ $\quad 11\times 1 = 11$ $\frac{5}{(2\times 3\times 5)} - \frac{11}{(2\times 3)} = \frac{25}{30} - \frac{11}{30} = \frac{14}{30}$ $\frac{5}{(2\times 3\times 5)} - \frac{11}{(2\times 3)}$ $6\times 5 = 30$ $\quad 30\times 1 = 30$ $\frac{14\div 2}{30\div 2} = \frac{7}{15}$