FRACTION ADDITION AND SUBTRACTION

3 cases

Cases:

1. For CASE 1 - Same Denominators
2. For CASE 2 - Different Denominators
3. For CASE 3 - Mixed Numbers

Example 1: $\frac{3}{7}+\frac{2}{7}$ $(These\ fractions\ have\ the\ same\ denominator\ so\ Case\ 1\ )$

For Case 1 problems, we just add the numerators…

$\frac{3}{7}+\frac{2}{7}=\frac{3+2}{7}=\frac{5}{7}$ $\ldots and\ this\ is\ in\ its\ simplest\ form!$

Example 2: $\frac{3}{5}+\frac{1}{7}$ $(These\ fractions\ have\ different\ denominators\ so\ Case\ 2)$

For Case 2 problems, we butterfly multiply…

$\frac{3}{5}+\frac{1}{7}=\frac{21+5}{35}=\frac{26}{35}$ $\ldots and\ this\ is\ in\ its\ simplest\ form!$

Example 3: $2\frac{4}{8}+3\frac{2}{8}$ $(These\ have\ mixed\ numbers!\ So\ Case\ 3)$

- Firstly, we must rewrite our problem with ALL of the additions in play… $2+\frac{4}{8}+3+\frac{2}{8}$
- We can then add the whole numbers together… $(2+3)+\frac{4}{8}+\frac{2}{8}\ \rightarrow\ 5+\frac{4}{8}+\frac{2}{8}$
- We can then add the fractions depending on whether they are Case 1 or Case 2… In this situation they have the same denominator and are therefore Case 1
- So we add the numerators… $5+\frac{4+2}{8}\ \rightarrow\ 5+\frac{6}{8}\ \rightarrow\ 5\frac{6}{8}$
- We must now make the fraction in its simplest form… $\frac{6}{8}=\frac{6\div2}{8\div2}=\frac{3}{4}$
- Final answer → $5\frac{3}{4}$

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