Monday 15th June 2020
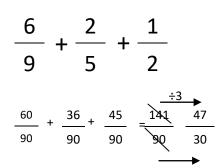
Adding three fractions by first finding the lowest common denominator (LCD)

Steps to success

Example:

$$\frac{6}{9} + \frac{2}{5} + \frac{1}{2}$$

$$\frac{60}{90} + \frac{36}{90} + \frac{45}{90} = \frac{141}{90} \quad \frac{47}{30}$$

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1. Multiply the denominators together to find a common denominator e.g. 3 x 8 x 7 = 90

2. Look at the denominators and check if there are any common factors between 2 or more of them. If there are no common factors then your answer would be the answer in step 1. So 90 would be the LCD in the example. If there is a common factor you divide the answer in step 1 by the common factor to find the lowest common denominator.

3. Next you need to convert the numerators into 90ths. For the first fraction, to get to 90, we would multiply 9 x 10 so we need to do this to the top (6 x 10 = 60) so the first fraction would be 60/90. Repeat this with the other fractions, working out what you would multiply the denominator by to reach 90 and doing the same to the bottom as to the top.

4. Finally add the fractions together to get the answer. Remember that if the bottom and the top can be divided by the same number– do this to both to get the answer in its lowest form.

Find the total for each set of fractions below:

Fractions	Working out	Total
$\frac{2}{10} + \frac{3}{5} + \frac{1}{10}$		
$\frac{3}{5} + \frac{2}{10} + \frac{1}{5}$		
$\frac{1}{10} + \frac{2}{5} + \frac{1}{10}$		
$\frac{3}{5} + \frac{1}{2} + \frac{3}{5}$		
$\frac{3}{10} + \frac{1}{4} + \frac{1}{10}$		
$\frac{1}{3} + \frac{1}{8} + \frac{2}{3}$		
$\frac{1}{10} + \frac{1}{2} + \frac{2}{10}$		