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Addition of Fractions

1) $\frac{3}{6} + \frac{2}{6} = \frac{3+2}{6} = \frac{5}{6}$

2) $\frac{1}{2} + \frac{3}{2} = \frac{4}{2} = \frac{2}{1} = 2$

3) $\frac{3}{12} + \frac{6}{12} = \frac{9}{12} = \frac{3}{4}$

- In problems 1, 2 and 3 the denominators are equal, thus we can just add the numerators and simplify.

4) $\frac{1}{3} + \frac{2}{6} = \frac{2}{6} + \frac{2}{6} = \frac{4}{6} = \frac{2}{3}$

5) $\frac{6}{8} + \frac{3}{4} = \frac{6\left(\frac{4}{8}\right)}{4} + \frac{3}{4} = \frac{6\left(\frac{1}{2}\right)}{4} + \frac{3}{4} = \frac{3}{4} + \frac{3}{4} = \frac{6}{4} = \frac{3}{2}$

6) $\frac{9}{12} + \frac{3}{4} = \frac{9\left(\frac{4}{12}\right)}{4} + \frac{3}{4} = \frac{9(0.3333\ldots)}{4} + \frac{3}{4} = \frac{3}{4} + \frac{3}{4} = \frac{6}{8} = \frac{3}{2}$

7) $\frac{1}{2} + \frac{7}{12} = \frac{1\left(\frac{12}{2}\right)}{12} + \frac{7}{12} = \frac{1(6)}{12} + \frac{7}{12} = \frac{6}{12} + \frac{7}{12} = \frac{13}{12} = 1 + \frac{1}{12}$

8) $\frac{7}{5} + \frac{2}{9} = \frac{7\left(\frac{9}{5}\right)}{9} + \frac{2}{9} = \frac{7(1.8)}{9} + \frac{2}{9} = \frac{12.6}{9} + \frac{2}{9} = \frac{14.6}{9}$

- In problems 4, 5, 6, 7 and 8 the denominators are different. In case you cannot see the pattern, the formula is:

$$\frac{a}{b} + \frac{c}{d} = \frac{a\left(\frac{d}{b}\right)}{d} + \frac{c}{d}$$