Making Like Units Numerically

M3 L9-11

Is one unit a factor of the other unit?

IF YES: Only change the fraction that is a factor and leave the other one the same.

IF NO: Multiply the units together to find a like unit and convert both fractions to equivalent values in the like unit.

OR Count by the multiples of the larger digit until you get to a number that is also a multiple of the smaller digit & convert both fractions to equivalent values in the like unit.

1. $\frac{1}{2} + \frac{1}{5}$

- 2 is NOT a factor of 5.
- 2 x 5 is 10, so that will be the like unit.

$\left(\frac{1}{2} \times \frac{5}{5}\right) + \left(\frac{1}{5} \times \frac{2}{2}\right)$

$\frac{5}{10} + \frac{2}{10} = \frac{7}{10}$

2. $\frac{1}{2} + \frac{2}{3}$

$\left(\frac{1}{2} \times \frac{3}{3}\right) + \left(\frac{2}{3} \times \frac{2}{2}\right)$

$\frac{3}{6} + \frac{4}{6} = \frac{7}{6} = 1\frac{1}{6}$

3. $\frac{5}{9} + \frac{5}{6}$

- 6 is NOT a factor of 9.
- count by 9s: 9 18

18 is also a multiple of 6 so it will be the like

$\left(\frac{5}{9} \times \frac{2}{2}\right) + \left(\frac{5}{6} \times \frac{3}{3}\right)$

$\frac{10}{18} + \frac{15}{18} = \frac{25}{18} = 1\frac{7}{18}$

4. $\frac{1}{2} + \frac{2}{6}$

- 2 is a factor of 6

$\left(\frac{1}{2} \times \frac{3}{3}\right) + \frac{2}{6}$

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

5. $\frac{2}{3} + \frac{1}{4} + \frac{1}{2}$

- 3 is NOT a factor of 4.
- count by 4s: 4, 8, 12

12 is a multiple of 3 and 2 so it is the like unit

$\left(\frac{2}{3} \times \frac{4}{4}\right) + \left(\frac{1}{4} \times \frac{3}{3}\right) + \left(\frac{1}{2} \times \frac{6}{6}\right)$

$\frac{8}{12} + \frac{3}{12} + \frac{6}{12} = \frac{17}{12} = 1\frac{5}{12}$

Making Like Units Numerically

M3 L9-11

6. $\frac{1}{3} - \frac{1}{5}$

- 3 is NOT a factor of 5.
- 3 x 5 is 15, so that will be the like unit.

$\left(\frac{1}{3} \times \frac{5}{5}\right) - \left(\frac{1}{5} \times \frac{3}{3}\right)$

$\frac{5}{15} - \frac{3}{15} = \frac{2}{15}$

7. $\frac{3}{5} - \frac{1}{6}$

$\left(\frac{3}{5} \times \frac{6}{6}\right) - \left(\frac{1}{6} \times \frac{5}{5}\right)$

$\frac{18}{30} - \frac{5}{30} = \frac{12 \div 6}{30 \div 6} = \frac{2}{5}$

8. $1\frac{3}{4} - \frac{3}{5}$

LOOK at the two fractions= $\frac{3}{4}$ is larger than $\frac{3}{5}$

$1\frac{3\times5}{4\times5} - \frac{3\times4}{5\times4} =$

$1\frac{15}{20} - \frac{12}{20} = 1\frac{3}{20}$

9. $3\frac{3}{5} - 2\frac{1}{2}$

Subtract whole numbers first.

$(3-2)\ \frac{3}{5} - \frac{1}{2}$

$1\ \frac{3}{5} - \frac{1}{2}$

$1\ \frac{6}{10} - \frac{5}{10}$

$1\frac{1}{10}$

10. $1\frac{3_{\times3}}{10_{\times3}} - \frac{1_{\times5}}{6_{\times5}}$

$1\frac{9}{30} - \frac{5}{30}$

$1\frac{4}{30}$

11. $5\frac{3}{4} - 3\frac{1}{6}$

Subtract whole numbers first.

$(5-3) - \frac{3}{4} - \frac{1}{6}$

$2\frac{3}{4} - \frac{1}{6}$

$2\frac{9}{12} - \frac{2}{12}$

$2\frac{7}{12}$