

## “Ideal” Sets of Fraction Addition Exercises

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In each of the following four sets of exercises, the student practices

each of the elements of the multiplication table from  $2 \times 2$  to  $9 \times 9$  at least once.

Ten exercises is the minimum number necessary to cover that multiplication table.

None of the exercises requires multiplication or division beyond 10.

Each set has:

A. One exercise whose denominators are relatively prime.

B. Either one exercise whose denominators are the same,  
or one in which one denominator is a multiple of the other.

C. Eight exercises whose denominators have a common proper factor.

D. At least two exercises each with:

1. Addition with carrying.
2. Addition without carrying.
3. Subtraction with borrowing.
4. Subtraction without borrowing.

E. At least three exercises whose sum reduces.

The four sets do not share any exercises.

Four is the largest possible number of such sets.

1.  $\frac{7}{2} + \frac{5}{2}$       2.  $\frac{9}{20} - \frac{7}{24}$       3.  $\frac{3}{40} - \frac{7}{48}$       4.  $\frac{7}{24} + \frac{5}{56}$       5.  $\frac{7}{30} - \frac{5}{36}$

6.  $\frac{4}{63} + \frac{7}{72}$       7.  $\frac{8}{9} + \frac{5}{18}$       8.  $\frac{3}{28} + \frac{1}{12}$       9.  $\frac{7}{36} - \frac{5}{8}$       10.  $\frac{5}{6} - \frac{9}{4}$

1.  $\frac{7}{30} + \frac{5}{36}$       2.  $\frac{9}{10} - \frac{7}{12}$       3.  $\frac{3}{20} + \frac{7}{24}$       4.  $\frac{6}{7} + \frac{7}{8}$       5.  $\frac{8}{9} - \frac{1}{72}$

6.  $\frac{9}{40} + \frac{1}{24}$       7.  $\frac{7}{6} - \frac{3}{16}$       8.  $\frac{4}{45} + \frac{1}{36}$       9.  $\frac{5}{28} - \frac{1}{12}$       10.  $\frac{7}{18} - \frac{9}{4}$

1.  $\frac{9}{10} - \frac{5}{12}$       2.  $\frac{4}{7} + \frac{7}{6}$       3.  $\frac{3}{40} + \frac{7}{48}$       4.  $\frac{7}{8} + \frac{1}{72}$       5.  $\frac{9}{28} - \frac{7}{36}$

6.  $\frac{7}{30} - \frac{1}{36}$       7.  $\frac{3}{56} + \frac{1}{24}$       8.  $\frac{4}{15} + \frac{1}{12}$       9.  $\frac{5}{6} - \frac{9}{8}$       10.  $\frac{7}{18} - \frac{5}{14}$

1.  $\frac{7}{18} - \frac{5}{12}$       2.  $\frac{6}{7} + \frac{7}{4}$       3.  $\frac{8}{45} + \frac{7}{54}$       4.  $\frac{3}{8} - \frac{7}{64}$       5.  $\frac{9}{56} - \frac{7}{72}$

6.  $\frac{5}{6} - \frac{7}{16}$       7.  $\frac{5}{12} - \frac{3}{20}$       8.  $\frac{5}{36} - \frac{3}{28}$       9.  $\frac{7}{30} + \frac{1}{36}$       10.  $\frac{5}{18} + \frac{7}{4}$

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