

Adding and Subtracting Fractions with Denominators that are Multiples

Aim: To add and subtract fractions with denominators that are multiples of the same number

Add the following fractions by changing one of the denominators so that they are the same. Then, write the answer in its simplest form. For each calculation, give a pair of fractions with different denominators that are multiples of the same number.

Example: $\frac{1}{4} + \frac{2}{8}$ $\frac{2}{8} = \frac{1}{4}$ $\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$ can be simplified to $\frac{1}{2}$

1. $\frac{2}{3} + \frac{1}{6} =$

2. $\frac{1}{4} + \frac{1}{8} =$

3. $\frac{1}{2} + \frac{3}{10} =$

4. $\frac{2}{5} + \frac{7}{15} =$

5. $\frac{3}{4} + \frac{1}{12} =$

Subtract the following fractions by changing one of the denominators so that they are the same. Then, write the answer in its simplest form.

6. $\frac{1}{2} - \frac{1}{6} =$

7. $\frac{6}{8} - \frac{1}{4} =$

8. $\frac{3}{5} - \frac{3}{10} =$

9. $\frac{2}{3} - \frac{4}{15} =$

10. $\frac{4}{5} - \frac{4}{20} =$

Challenge

For each of these addition and subtraction calculations, write a pair of fractions with different denominators that are multiples that total the given fraction. Watch out - some of the fractions may have been written in their simplest forms!

+ = $\frac{5}{8}$

- = $\frac{7}{10}$

- = $\frac{5}{12}$

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

Adding and Subtracting Fractions with Denominators that are Multiples **Answers**

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

2. $\frac{1}{4} + \frac{1}{8} = \frac{3}{8}$

3. $\frac{1}{2} + \frac{3}{10} = \frac{8}{10} = \frac{4}{5}$

4. $\frac{2}{5} + \frac{7}{15} = \frac{13}{15}$

5. $\frac{3}{4} + \frac{1}{12} = \frac{10}{12} = \frac{5}{6}$

Subtract the following fractions by changing one of the denominators so that they are the same. Then, write the answer in its simplest form.

6. $\frac{1}{2} - \frac{1}{6} = \frac{2}{6}$

7. $\frac{6}{8} - \frac{1}{4} = \frac{4}{8} = \frac{1}{2}$

8. $\frac{3}{5} - \frac{3}{10} = \frac{3}{10}$

9. $\frac{2}{3} - \frac{4}{15} = \frac{6}{15}$

10. $\frac{4}{5} - \frac{4}{20} = \frac{12}{20} = \frac{3}{5}$

Challenge

For each of these addition and subtraction calculations, write a pair of fractions with different denominators that are multiples that total the given fraction. Watch out - some of the fractions may have been written in their simplest forms!

$$\frac{1}{2} + \frac{1}{8} = \frac{5}{8}$$

$$\frac{4}{5} - \frac{1}{10} = \frac{7}{10}$$

$$\frac{5}{6} - \frac{5}{12} = \frac{5}{12}$$

$$\frac{1}{5} + \frac{6}{15} = \frac{3}{5}$$

Please note that these are possible answers. Accept any two fractions which total the given fraction and whose denominators are different.