Problem 1 – Finding a common denominator

One way to find a common denominator is to multiply each fraction by "1", meaning you need to multiply the top and bottom of the fraction by the same number. For example, $\frac{3}{3}$ or $\frac{10}{10}$.

Open the CelSheet App. To open the file **FRAC**, press GRAPH **(Menu) > File > Open** and select the file.

Rows 1 and 2 make up the first fraction. Rows 3 and 4 make up the second fraction.

Change cell **B1** or **B4** to change the "1" fraction.

The example below changes the fractions $\frac{2}{3}$ and $\frac{1}{4}$ to have a common denominator.

$$\frac{2}{3}\cdot\frac{4}{4}=\frac{8}{12}$$

$$\frac{1}{4}\cdot\frac{3}{3}=\frac{3}{12}$$

FRAC	A	B	C
1	2	4	8
2	3	4	12
3			
4	1	3	3
5	4	3	12
6			

A1: 2 Menu

1. Use the **FRAC** file to change the following fractions to have a common denominator.

a.

$$\frac{4}{5}\cdot\frac{\square}{\square}=\frac{\square}{\square}$$

$$\frac{3}{4}\cdot\frac{\square}{\square}=\frac{\square}{\square}$$

b.

$$\frac{13}{5}\cdot\frac{\square}{\square}=\frac{\square}{\square}$$

$$\frac{5}{6}\cdot\frac{\square}{\square}=\frac{\square}{\square}$$

- What do these pairs of fractions have in common?

2. Now use the **FRAC** file to change the following pairs of fractions so that they have a common denominator.

a.

$$\frac{4}{15}\cdot\frac{\square}{\square}=\frac{\square}{\square}$$

$$\frac{1}{6}\cdot\frac{\square}{\square}=\frac{\square}{\square}$$

b.

$$\frac{3}{12}\cdot\frac{\square}{\square}=\frac{\square}{\square}$$

$$\frac{11}{16}\cdot\frac{\square}{\square}=\frac{\square}{\square}$$

c.

$$\frac{17}{8}\cdot\frac{\square}{\square}=\frac{\square}{\square}$$

$$\frac{7}{4}\cdot\frac{\square}{\square}=\frac{\square}{\square}$$

- What is the difference between these pairs of fractions and the previous ones?

Problem 2 – Adding and subtracting fractions

3. You must have a common denominator for fractions when performing which of the following operations? Fill in the circle for your choice(s).

o Add o Multiply

o Subtract o Divide

4. Explain how you would add or subtract two fractions with different denominators.

5. Use the **FRAC** file to help you add or subtract the following fractions.

a.

$$\frac{5}{12}\cdot\frac{\square}{\square}=\frac{\square}{\square}$$

$$\frac{2}{9}\cdot\frac{\square}{\square}=\frac{\square}{\square}$$

$$\frac{5}{12}+\frac{2}{9}=\frac{\square}{\square}+\frac{\square}{\square}=\frac{\square}{\square}$$

b.

$$\frac{32}{21}\cdot\frac{\square}{\square}=\frac{\square}{\square}$$

$$\frac{15}{13}\cdot\frac{\square}{\square}=\frac{\square}{\square}$$

$$\frac{32}{21}-\frac{15}{13}=\frac{\square}{\square}-\frac{\square}{\square}=\frac{\square}{\square}$$