

M8 - 6.4 - Adding Subtracting Fractions Notes

Steps: Get the same bottom (LCD), do to top, do to bottom, add or subtract tops.

Lowest common denominator (LCD): the lowest common multiple of the denominators

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

If the denominators are the same, we already have the LCD.

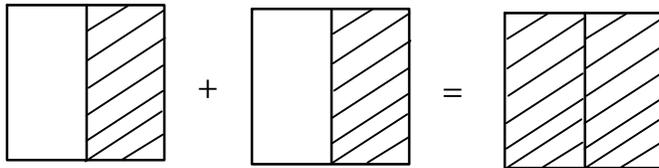
$$LCD = 2$$

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

Add numerators: $1 + 1 = 2$

$$\frac{2}{2} = \textcircled{1}$$

Simplify.



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

Multiply the top and bottom of each fraction by the denominator of the other fraction.

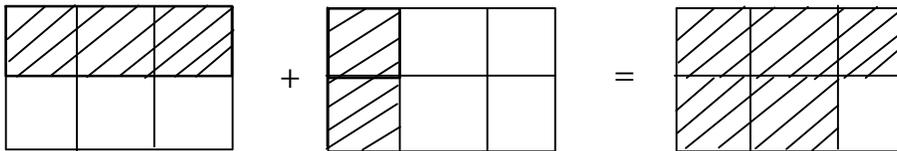
$$LCD = 6$$

$$\frac{3 \times 1}{3 \times 2} + \frac{1 \times 2}{3 \times 2} =$$

This will always give you a common denominator (not necessarily the LCD).

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

Add the numerators.



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

$$LCD = 6$$

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

$$\frac{3 \times 1}{3 \times 2} + \frac{1 \times 2}{3 \times 2} =$$

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

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

Multiples of 4: 4, 8, $\textcircled{12}$, 16, 20

$$LCD = 12$$

Multiples of 6: 6, $\textcircled{12}$, 18, 24

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

Multiply top and bottom of first fraction by 3 to get 12 in the denominator.

Multiply top and bottom of second fraction by 2 to get 12 in the denominator.

$$\frac{9}{12} - \frac{2}{12} = \textcircled{\frac{7}{12}}$$

Subtract the numerators.