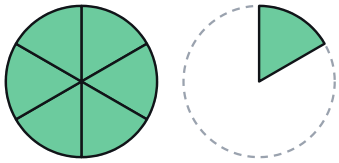
Names (pair) _____ Date _____

Different Denominators

Example



Halves and thirds can't be exchanged for each other, but both can be built from **sixths:** $\frac{1}{2} = \frac{3}{6}$, $\frac{2}{3} = \frac{4}{6}$.

$$\frac{1}{2} + \frac{2}{3} = \frac{3}{6} + \frac{4}{6} = \frac{7}{6} = 1\frac{1}{6}$$

Remember

When the denominators are not related, we look for **a piece both fractions can be built from** (a common denominator). It is often the product of the denominators.

1 IN PAIRS **Which piece fits both?** Use the discs to find the biggest piece that both kinds of pieces can be built from.

$\frac{1}{2}$ and $\frac{1}{3} \rightarrow \frac{1}{\square}$ $\quad$ $\frac{1}{3}$ and $\frac{1}{4} \rightarrow \frac{1}{\square}$ $\quad$ $\frac{1}{4}$ and $\frac{1}{6} \rightarrow \frac{1}{\square}$

$\frac{1}{2}$ and $\frac{1}{5} \rightarrow \frac{1}{\square}$ $\quad$ $\frac{1}{3}$ and $\frac{1}{6} \rightarrow \frac{1}{\square}$ $\quad$ $\frac{1}{2}$ and $\frac{1}{4} \rightarrow \frac{1}{\square}$

2 ON YOUR OWN Add.

a) $\frac{1}{2} + \frac{2}{3} = \frac{\square}{6} + \frac{\square}{6} = \frac{\square}{6} = \square\frac{\square}{6}$

b) $\frac{3}{4} + \frac{2}{3} = \frac{\square}{12} + \frac{\square}{12} = \frac{\square}{12} = \square\frac{\square}{12}$

c) $\frac{5}{6} + \frac{3}{4} = \frac{\square}{12} + \frac{\square}{12} = \frac{\square}{12} = \square\frac{\square}{12}$

d) $\frac{1}{2} + \frac{4}{5} = \frac{\square}{10} + \frac{\square}{10} = \frac{\square}{10} = \square\frac{\square}{10}$

Names (pair) _____ Date _____

3 ON YOUR OWN Subtract.

a) $\frac{4}{3} - \frac{1}{2} = \frac{\square}{6} - \frac{\square}{6} = \frac{\square}{6}$

b) $1\frac{1}{4} - \frac{2}{3} = \frac{\square}{12} - \frac{\square}{12} = \frac{\square}{12}$

c) $1\frac{1}{2} - \frac{4}{5} = \frac{\square}{10} - \frac{\square}{10} = \frac{\square}{10}$

d) $\frac{7}{6} - \frac{3}{4} = \frac{\square}{12} - \frac{\square}{12} = \frac{\square}{12}$

4 IN PAIRS **Prove it!** One student solves with discs, the other by calculating with a common denominator. Do the answers agree? Swap roles.

a) $\frac{3}{4} + \frac{5}{6} = \frac{\square}{12} + \frac{\square}{12} = \frac{\square}{12} = \square\,\frac{\square}{12}$

b) $1\frac{1}{2} - \frac{2}{3} = \frac{\square}{6} - \frac{\square}{6} = \frac{\square}{6}$

5 ON YOUR OWN **A mistake.** Ivan says: „$\frac{1}{2} + \frac{2}{3} = \frac{3}{5}$". How do you know he is wrong without calculating? Explain with a drawing.