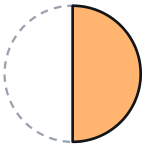
Names (pair) _____ Date _____

Adding Fractions with Related Denominators

PART 1 Exchange it

1 **In pairs.** One student shows a disc piece. The partner covers it with smaller pieces of one kind in as many ways as possible. Write the equalities.



$\frac{1}{2} = \frac{\square}{4} = \frac{\square}{6} = \frac{\square}{8} = \frac{\square}{10} = \frac{\square}{12}$



$\frac{1}{3} = \frac{\square}{6} = \frac{\square}{9} = \frac{\square}{12}$



$\frac{1}{4} = \frac{\square}{8} = \frac{\square}{12}$

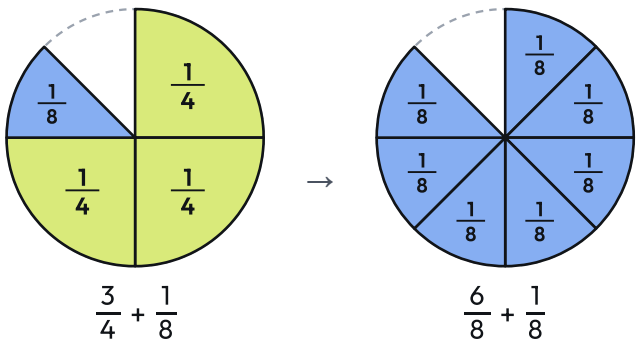


$\frac{1}{5} = \frac{\square}{10}$



$\frac{1}{6} = \frac{\square}{12}$

Example



$\frac{3}{4} + \frac{1}{8}$ → $\frac{6}{8} + \frac{1}{8}$

1. Build both fractions.
2. Exchange the bigger pieces for smaller ones:
   $\frac{3}{4} = \frac{6}{8}$
3. Count the pieces of the same size.

$\frac{3}{4} + \frac{1}{8} = \frac{6}{8} + \frac{1}{8} = \frac{7}{8}$

Remember

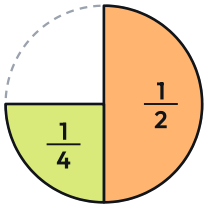
We cannot count pieces of different sizes together. First **exchange the bigger pieces for smaller ones**, then add the pieces of the same size.

Names (pair) _____ Date _____

PART 2 Builder and recorder

2 **In pairs.** The *builder* puts the fractions on the disc and exchanges the pieces. The *recorder* writes each step. Swap roles after each problem. You may write the result only when it is built on the disc.

1.

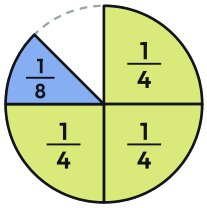


Exchange the bigger pieces and add:

$$\frac{1}{2} + \frac{1}{4} = \frac{\square}{4} + \frac{1}{4} = \frac{\square}{4}$$

Missing to one whole: $\frac{\square}{4}$

2.

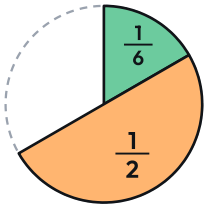


Exchange the bigger pieces and add:

$$\frac{3}{4} + \frac{1}{8} = \frac{\square}{8} + \frac{1}{8} = \frac{\square}{8}$$

Missing to one whole: $\frac{\square}{8}$

3.

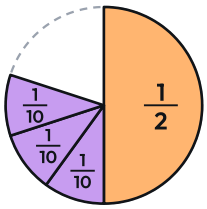


Exchange the bigger pieces and add:

$$\frac{1}{6} + \frac{1}{2} = \frac{1}{6} + \frac{\square}{6} = \frac{\square}{6}$$

Missing to one whole: $\frac{\square}{6}$

4.

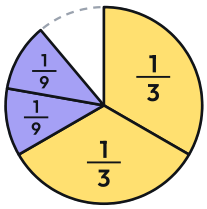


Exchange the bigger pieces and add:

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

Missing to one whole: $\frac{\square}{10}$

5.

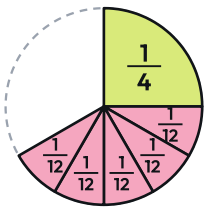


Exchange the bigger pieces and add:

$$\frac{2}{3} + \frac{2}{9} = \frac{\square}{9} + \frac{2}{9} = \frac{\square}{9}$$

Missing to one whole: $\frac{\square}{9}$

6.



Exchange the bigger pieces and add:

$$\frac{1}{4} + \frac{5}{12} = \frac{\square}{12} + \frac{5}{12} = \frac{\square}{12}$$

Missing to one whole: $\frac{\square}{12}$

Names (group) _____ Date _____

PART 3

Error detectives

3 **In a group of four.** Decide whether each solution is correct. Prove it with the discs. If it is wrong, write the correct solution and one sentence of advice.

Ema: $\frac{1}{2} + \frac{1}{4} = \frac{2}{6}$ CORRECT / WRONG

Correct solution: _____

Advice: _____

Luka: $\frac{2}{3} + \frac{1}{6} = \frac{5}{6}$ CORRECT / WRONG

Correct solution: _____

Advice: _____

Mia: $\frac{3}{4} + \frac{1}{8} = \frac{4}{8}$ CORRECT / WRONG

Correct solution: _____

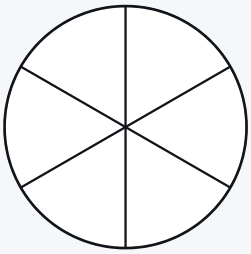
Advice: _____

Ivan: $\frac{1}{3} + \frac{1}{12} = \frac{5}{12}$ CORRECT / WRONG

Correct solution: _____

Advice: _____

Exit card



Colour on the disc and work it out.

$$\frac{1}{3} + \frac{1}{6} = \frac{\square}{6} + \frac{1}{6} = \frac{\square}{6}$$