

Adding fractions 2

- 1 Olivia walks $2\frac{1}{4}$ km on Monday. On Tuesday she walks $1\frac{3}{8}$ km.

How far does she walk in total?



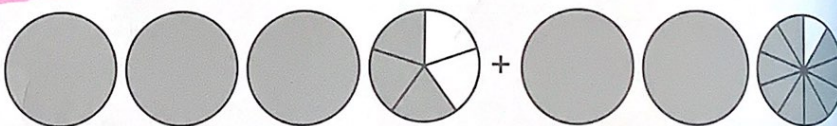
Add the wholes: $2 + 1 = 3$

Find a common denominator: $\frac{1}{4} = \frac{2}{8}$

Add the parts: $\frac{1}{4} + \frac{3}{8} = \frac{2}{8} + \frac{3}{8} = \frac{5}{8}$

Olivia walks $3\frac{5}{8}$ km in total.

- 2 Work out $3\frac{3}{5} + 2\frac{9}{10}$.



Add the **wholes**:

$3 + 2 = 5$

Find a common denominator: $\frac{3}{5} = \frac{6}{10}$

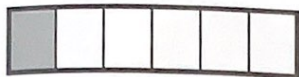
Add the parts: $\frac{3}{5} + \frac{9}{10} = \frac{6}{10} + \frac{9}{10} = \frac{15}{10}$

$\frac{6}{10} + \frac{9}{10} = \frac{15}{10} = 1\frac{5}{10} = 1\frac{1}{2}$

So, $3\frac{3}{5} + 2\frac{9}{10} = 6\frac{1}{2}$
 (or) $6\frac{5}{10}$

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

- 3 a) Work out $1\frac{1}{2} + \frac{1}{6}$.



$$1\frac{1}{2} + \frac{1}{6} = 1\frac{4}{6} \quad \text{or} \quad 1\frac{2}{3}$$

$\div 2$ (from $1\frac{4}{6}$ to $1\frac{2}{3}$)

Add wholes
 $1 + 0 = 1$

Add the parts.
 $\frac{1}{2} + \frac{1}{6} =$
 $\downarrow$
 $\frac{3}{6} + \frac{1}{6} = \frac{4}{6}$ $1 + \frac{4}{6} = 1\frac{4}{6}$

- b) Work out $\frac{7}{12} + 3\frac{2}{3}$.



Add wholes
 $3 + 0 = 3$ $3 + 1\frac{1}{4} = 4\frac{1}{4}$

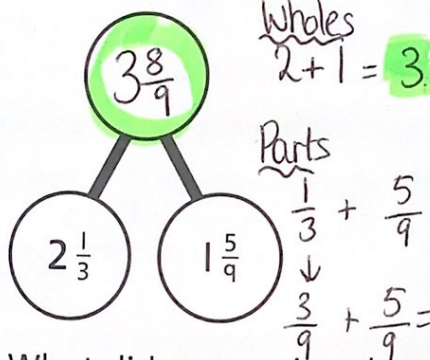
Add parts.
 $\frac{7}{12} + \frac{2}{3} =$
 $\frac{7}{12} + \frac{8}{12} = \frac{15}{12} = 1\frac{3}{12} = 1\frac{1}{4}$

- c) Explain why $2\frac{7}{12} + 1\frac{2}{3}$ is the same as the answer to part b).

If you move 2 wholes from $3\frac{2}{3}$ to $\frac{7}{12}$ it changes the calculation in b) to $2\frac{7}{12} + 1\frac{2}{3}$ but the total will remain the same.

- 4 Work out the missing value.

a)



b)

?	
$2\frac{1}{3}$	$4\frac{5}{9}$

Wholes $2 + 4 = 6$

Parts $\frac{1}{3} + \frac{5}{9} =$
 $\frac{3}{9} + \frac{5}{9} = \frac{8}{9}$ $6 + \frac{8}{9} = 6\frac{8}{9}$

What did you notice about the answer to part b)? Explain.

The fractional part is the same for both questions, just the whole part is different.

- 5 Part of the workings for adding two fractions are shown. 

What could the two fractions be? Complete the answer.

$$3 + 5 = 8$$

$$\frac{2}{3} + \frac{5}{6} = \frac{4}{6} + \frac{5}{6}$$

$$= \frac{9}{6}$$

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

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

$$\boxed{3}\frac{\boxed{2}}{\boxed{3}} + \boxed{5}\frac{\boxed{5}}{\boxed{6}} = \boxed{9}\frac{\boxed{1}}{\boxed{2}}$$

$$\text{or } 5\frac{2}{3} + 3\frac{5}{6} = 9\frac{1}{2}$$

- 6 What is the missing fraction?

$$2\frac{3}{4} + \frac{\boxed{10}}{\boxed{12}} = 3\frac{7}{12}$$

$$\text{or } 2\frac{3}{4} + \frac{5}{6} = 3\frac{7}{12}$$

✓ $\frac{10}{12}$ simplified

CHALLENGE 

$$\text{pencil icon } 2 + 0 = 2$$

$$3\frac{7}{12} - 2 = 1\frac{7}{12} \rightarrow \frac{19}{12}$$

$$\frac{3}{4} = \frac{9}{12} \rightarrow \frac{9}{12} + \frac{\boxed{10}}{\boxed{12}} = \frac{19}{12}$$

Reflect

How can you use $\frac{1}{2} + \frac{1}{8} = \frac{5}{8}$ to work out $4\frac{1}{2} + 3\frac{1}{8}$?

- The fraction parts have already been added,
- so I can just add the whole parts. to make $7\frac{5}{8}$