



Adding and subtracting fractions

- Adding fractions
- Subtracting fractions

Keywords

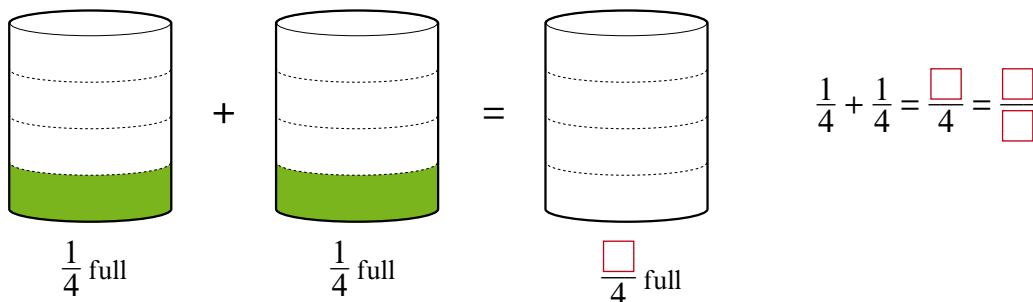
You should know

explanation 1a

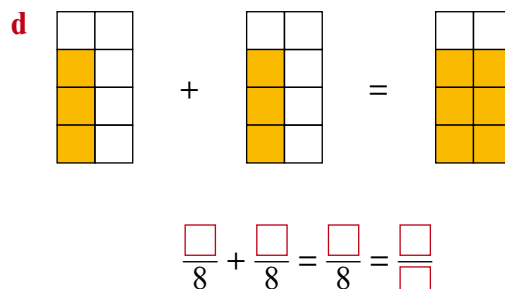
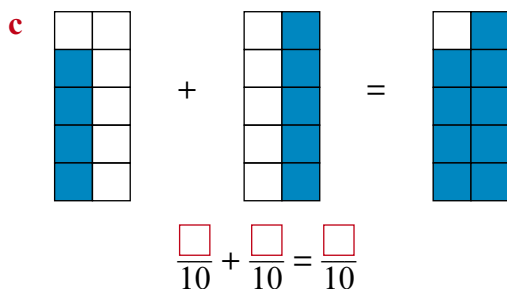
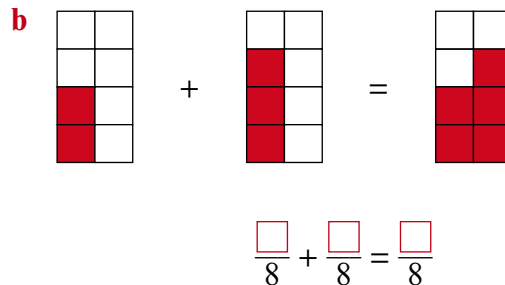
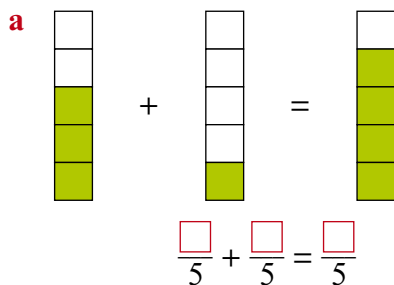
explanation 1b

- 1** The paint from the first two tins is poured into the third tin.

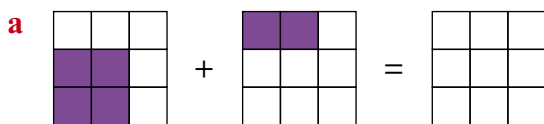
Copy and complete the diagram and fraction addition to show this.



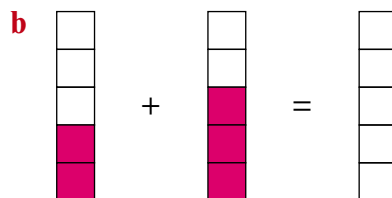
- 2** Copy and complete these diagrams and fraction additions.



3 Copy and complete these diagrams and fraction additions.



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



$$\frac{\square}{5} + \frac{\square}{5} = \frac{\square}{5} = \frac{\square}{\square}$$

4 Complete these additions. Cancel your answers to their lowest terms.

a $\frac{1}{3} + \frac{1}{3}$

b $\frac{1}{5} + \frac{2}{5}$

c $\frac{5}{8} + \frac{3}{8}$

d $\frac{4}{9} + \frac{2}{9}$

e $\frac{7}{12} + \frac{1}{12}$

f $\frac{3}{10} + \frac{5}{10}$

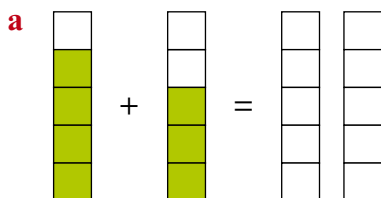
g $\frac{7}{15} + \frac{5}{15}$

h $\frac{7}{16} + \frac{5}{16}$

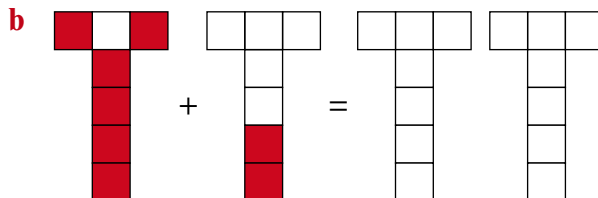
i $\frac{5}{12} + \frac{4}{12}$

explanation 2

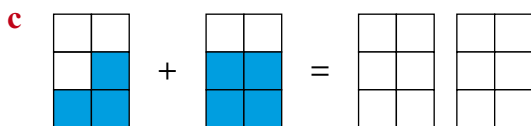
5 Copy and complete these diagrams and fraction calculations.



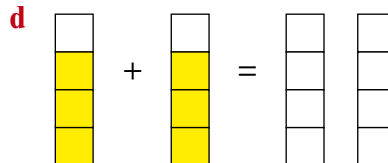
$$\frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square} = \square \frac{\square}{\square}$$



$$\frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square} = \square \frac{\square}{\square}$$



$$\frac{\square}{\square} + \frac{\square}{\square} = \square \frac{\square}{\square}$$



$$\frac{\square}{\square} + \frac{\square}{\square} = \square \frac{\square}{\square} = \square \frac{\square}{\square}$$

6 Simplify as far as possible.

a $\frac{6}{10} + \frac{9}{10}$

b $\frac{11}{15} + \frac{9}{15}$

c $\frac{11}{12} + \frac{4}{12}$

d $\frac{7}{9} + \frac{6}{9}$

e $\frac{9}{12} + \frac{4}{12}$

f $\frac{2}{7} + \frac{5}{7}$

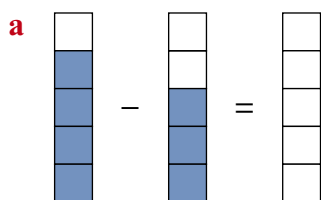
g $\frac{7}{8} + \frac{3}{8}$

h $\frac{4}{6} + \frac{5}{6}$

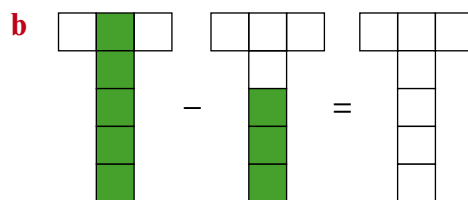
i $\frac{17}{20} + \frac{8}{20}$

explanation 3

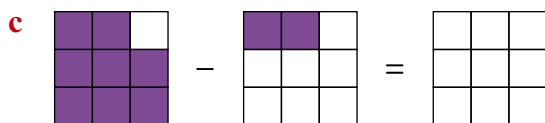
7 Copy and complete these diagrams and fraction subtractions.



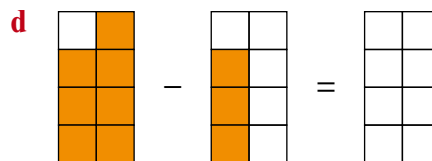
$$\frac{\square}{5} - \frac{\square}{5} = \frac{\square}{5}$$



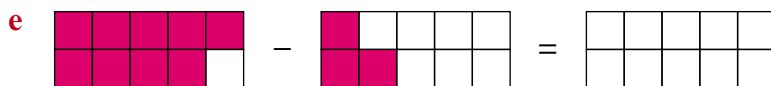
$$\frac{\square}{7} - \frac{\square}{7} = \frac{\square}{7}$$



$$\frac{\square}{9} - \frac{\square}{9} = \frac{\square}{9} = \frac{\square}{\square}$$



$$\frac{\square}{8} - \frac{\square}{8} = \frac{\square}{8} = \frac{\square}{\square}$$



$$\frac{\square}{10} - \frac{\square}{10} = \frac{\square}{10} = \frac{\square}{\square}$$

8 Simplify as far as possible.

a $\frac{8}{9} - \frac{5}{9}$

b $\frac{10}{12} - \frac{1}{12}$

c $\frac{13}{15} - \frac{3}{15}$

d $\frac{7}{8} - \frac{5}{8}$

e $\frac{9}{10} - \frac{7}{10}$

f $\frac{7}{8} - \frac{3}{8}$

g $\frac{11}{14} - \frac{4}{14}$

h $\frac{15}{20} - \frac{3}{20}$

i $\frac{19}{25} - \frac{9}{25}$

explanation 4

9 Copy and complete these diagrams and fraction calculations.

a

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

$$= \frac{\square}{\square}$$

b

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

$$= \frac{\square}{\square}$$

c

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

$$= \frac{\square}{\square}$$

$$= \frac{\square}{\square}$$

d

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

$$= \frac{\square}{\square}$$

***10** Copy and complete.

$$\begin{aligned} \text{a} \quad & \frac{1}{2} + \frac{3}{8} \\ & = \frac{\square}{8} + \frac{\square}{8} \\ & = \frac{\square}{\square} \end{aligned}$$

$$\begin{aligned} \text{b} \quad & \frac{3}{4} + \frac{3}{16} \\ & = \frac{\square}{16} + \frac{\square}{16} \\ & = \frac{\square}{\square} \end{aligned}$$

$$\begin{aligned} \text{c} \quad & \frac{5}{12} + \frac{1}{6} \\ & = \frac{\square}{12} + \frac{\square}{12} \\ & = \frac{\square}{\square} \end{aligned}$$

$$\begin{aligned} \text{d} \quad & \frac{3}{20} + \frac{4}{5} \\ & = \frac{\square}{20} + \frac{\square}{20} \\ & = \frac{\square}{\square} \end{aligned}$$

$$\begin{aligned} \text{e} \quad & \frac{4}{15} + \frac{2}{3} \\ & = \frac{\square}{15} + \frac{\square}{15} \\ & = \frac{\square}{\square} \end{aligned}$$

$$\begin{aligned} \text{f} \quad & \frac{5}{18} + \frac{1}{3} \\ & = \frac{\square}{18} + \frac{\square}{18} \\ & = \frac{\square}{\square} \end{aligned}$$

***11** Simplify as far as possible.

$$\text{a} \quad \frac{1}{3} + \frac{1}{6}$$

$$\text{b} \quad \frac{1}{4} + \frac{3}{8}$$

$$\text{c} \quad \frac{5}{6} + \frac{2}{30}$$

$$\text{d} \quad \frac{3}{10} + \frac{3}{5}$$

$$\text{e} \quad \frac{1}{5} + \frac{2}{15}$$

$$\text{f} \quad \frac{5}{8} + \frac{1}{24}$$

$$\text{g} \quad \frac{3}{7} + \frac{5}{14}$$

$$\text{h} \quad \frac{3}{8} + \frac{5}{16}$$

$$\text{i} \quad \frac{1}{18} + \frac{5}{6}$$

explanation 5

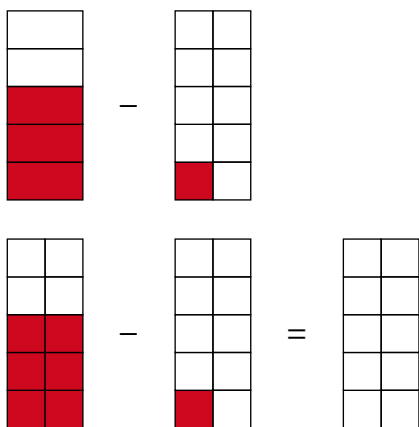
12 Copy and complete these diagrams and fraction calculations.

$$\begin{aligned} \text{a} \quad & \begin{array}{|c|c|} \hline \text{shaded} & \text{empty} \\ \hline \text{shaded} & \text{empty} \\ \hline \end{array} - \begin{array}{|c|c|} \hline \text{empty} & \text{empty} \\ \hline \text{shaded} & \text{empty} \\ \hline \text{empty} & \text{empty} \\ \hline \end{array} \\ & \begin{array}{|c|c|} \hline \text{shaded} & \text{empty} \\ \hline \text{shaded} & \text{empty} \\ \hline \end{array} - \begin{array}{|c|c|} \hline \text{empty} & \text{empty} \\ \hline \text{shaded} & \text{empty} \\ \hline \text{empty} & \text{empty} \\ \hline \end{array} = \begin{array}{|c|c|} \hline \text{empty} & \text{empty} \\ \hline \text{empty} & \text{empty} \\ \hline \end{array} \\ & \frac{\square}{2} - \frac{\square}{4} = \frac{\square}{4} - \frac{\square}{4} \\ & = \frac{\square}{\square} \end{aligned}$$

$$\begin{aligned} \text{b} \quad & \begin{array}{|c|} \hline \text{empty} \\ \hline \text{shaded} \\ \hline \text{shaded} \\ \hline \text{shaded} \\ \hline \end{array} - \begin{array}{|c|c|} \hline \text{empty} & \text{empty} \\ \hline \text{shaded} & \text{empty} \\ \hline \text{shaded} & \text{shaded} \\ \hline \text{shaded} & \text{shaded} \\ \hline \end{array} \\ & \begin{array}{|c|c|} \hline \text{empty} & \text{empty} \\ \hline \text{shaded} & \text{shaded} \\ \hline \text{shaded} & \text{shaded} \\ \hline \text{shaded} & \text{shaded} \\ \hline \end{array} - \begin{array}{|c|c|} \hline \text{empty} & \text{empty} \\ \hline \text{shaded} & \text{empty} \\ \hline \text{shaded} & \text{shaded} \\ \hline \text{shaded} & \text{shaded} \\ \hline \end{array} = \begin{array}{|c|c|} \hline \text{empty} & \text{empty} \\ \hline \text{empty} & \text{empty} \\ \hline \text{empty} & \text{empty} \\ \hline \text{empty} & \text{empty} \\ \hline \end{array} \\ & \frac{\square}{4} - \frac{\square}{8} = \frac{\square}{8} - \frac{\square}{8} \\ & = \frac{\square}{\square} \end{aligned}$$

13 Copy and complete these diagrams and fraction calculations.

a

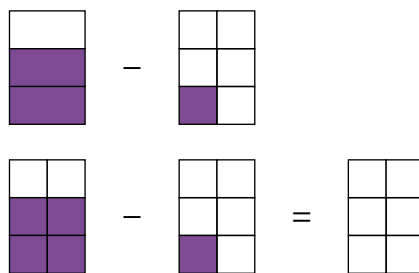


$$\frac{\square}{5} - \frac{\square}{10} = \frac{\square}{10} - \frac{\square}{10}$$

$$= \frac{\square}{\square}$$

$$= \frac{\square}{\square}$$

b



$$\frac{\square}{3} - \frac{\square}{6} = \frac{\square}{6} - \frac{\square}{6}$$

$$= \frac{\square}{\square}$$

$$= \frac{\square}{\square}$$

***14** Copy and complete.

a

$$\frac{1}{2} - \frac{3}{8}$$

$$= \frac{\square}{8} - \frac{\square}{8}$$

$$= \frac{\square}{\square}$$

b

$$\frac{2}{3} - \frac{7}{12}$$

$$= \frac{\square}{12} - \frac{\square}{12}$$

$$= \frac{\square}{\square}$$

c

$$\frac{17}{20} - \frac{1}{5}$$

$$= \frac{\square}{20} - \frac{\square}{20}$$

$$= \frac{\square}{\square}$$

d

$$\frac{17}{18} - \frac{5}{9}$$

$$= \frac{\square}{18} - \frac{\square}{18}$$

$$= \frac{\square}{\square}$$

e

$$\frac{3}{5} - \frac{7}{15}$$

$$= \frac{\square}{15} - \frac{\square}{15}$$

$$= \frac{\square}{\square}$$

f

$$\frac{13}{16} - \frac{3}{4}$$

$$= \frac{\square}{16} - \frac{\square}{16}$$

$$= \frac{\square}{\square}$$

***15** Simplify as far as possible.

a

$$\frac{5}{12} - \frac{1}{6}$$

b

$$\frac{3}{4} - \frac{1}{8}$$

c

$$\frac{11}{12} - \frac{1}{4}$$

d

$$\frac{17}{20} - \frac{3}{4}$$

e

$$\frac{7}{15} - \frac{2}{5}$$

f

$$\frac{19}{20} - \frac{3}{5}$$