

P3 Singapore Math

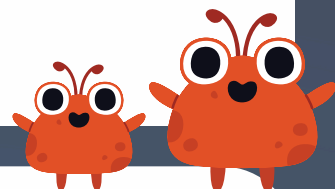
Fractions Word Problems 2

$$+ - \times \div$$

Name: _____ Date: _____

Learning Goal:

- Make the fractions equivalent
- Decide whether to add or subtract - up to 2 steps
- Ensure that final answers are written in the simplest form



Example:

Wen Wen, Sienna and Mina ate a cake. Wen Wen ate $\frac{2}{3}$ of the cake. Sienna ate $\frac{1}{12}$ of the cake. Mina ate the rest of the cake. What fraction of the cake did Mina eat?

$$\frac{2}{3} = \frac{8}{12}$$

Diagram showing the conversion of $\frac{2}{3}$ to $\frac{8}{12}$. A blue arrow points from 2 to 8 with a blue 'x' and '4' above it. Another blue arrow points from 3 to 12 with a blue 'x' and '4' below it.

1. Make the fractions equivalent

- Multiply the numerator and denominator by the same number. Think: $3 \times \underline{\quad} = 12$
- We choose to make the denominator to 12 so that both fractions can have the same denominator.

$$\frac{1}{12} + \frac{8}{12} = \frac{9}{12}$$

2. Add the fractions

- To find out the total parts that Wen Wen and Sienna have eaten

$$\begin{aligned} \frac{12}{12} - \frac{9}{12} &= \frac{3}{12} \\ &= \frac{1}{4} \end{aligned}$$

3. Subtract it from 1 whole to find the rest of the cake that Mina ate

- In this case, $1 = \frac{12}{12}$

4. Simplify the final answer,

Mina ate $\frac{1}{4}$ of the cake.

1. Boonperm's cat chewed $\frac{4}{7}$ of his book this morning. Later on, his dog tore $\frac{2}{21}$ of the book. What fraction of the book was left?

Shall we find the total parts that were gone first?

What shall we do next to find what is left?



2. $\frac{1}{6}$ of the seashells collected at home belonged to Tinn. $\frac{1}{2}$ of the seashells belonged to his brother, Tul. The rest belonged to their sister. What fraction of the seashells belonged to their sister?



Psst..A question on fraction is not done until you have checked if it is in its simplest form

3. $\frac{2}{3}$ of the cars at the car park near Mega Bangna were red. $\frac{1}{6}$ of the cars in the same car park were blue. Black cars comprised of $\frac{1}{12}$ of them. What fraction of the cars in the car park were red, blue and black altogether?

There are 3 fractions in this question. Before we add or subtract them, we need to make all of their denominators equal. How do we do that?



4. In a village, $\frac{3}{5}$ of the houses were occupied by Thais. $\frac{2}{15}$ of the houses were occupied by foreigners. The rest were unoccupied.
- a) What fraction of the village was occupied?

b) What fraction of the village was not occupied?

Checking my work makes me a conscientious student.



ANSWER KEY

$$1. \quad \frac{4}{7} = \frac{12}{21}$$

$$\frac{12}{21} + \frac{2}{21} = \frac{14}{21}$$

$$\begin{aligned} \frac{21}{21} - \frac{14}{21} &= \frac{7}{21} \\ &= \frac{1}{3} \end{aligned}$$

or

$$\frac{21}{21} - \frac{12}{21} = \frac{9}{21}$$

$$\begin{aligned} \frac{9}{21} - \frac{2}{21} &= \frac{7}{21} \\ &= \frac{1}{3} \end{aligned}$$

$\frac{1}{3}$ of the book was left.

$$2. \quad \frac{1}{2} = \frac{3}{6} \text{ (Tul)}$$

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

$$\begin{aligned} \frac{6}{6} - \frac{4}{6} &= \frac{2}{6} \\ &= \frac{1}{3} \end{aligned}$$

or

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

$$\begin{aligned} \frac{5}{6} - \frac{3}{6} &= \frac{2}{6} \\ &= \frac{1}{3} \end{aligned}$$

$\frac{1}{3}$ of the seashells belonged to their sister.

ANSWER KEY

3. $\frac{2}{3} = \frac{8}{12}$ (red)

$$\frac{1}{6} = \frac{2}{12} \text{ (blue)}$$

$$\frac{8}{12} + \frac{2}{12} = \frac{10}{12}$$

$$\frac{10}{12} + \frac{1}{12} = \frac{11}{12}$$

$\frac{11}{12}$ of the cars were red, blue and black altogether.

4. $\frac{3}{5} = \frac{9}{15}$ (Thais)

$$\frac{9}{15} + \frac{2}{15} = \frac{11}{15}$$

a) $\frac{11}{15}$ of the village was occupied.

$$\frac{15}{15} - \frac{11}{15} = \frac{4}{15}$$

b) $\frac{4}{15}$ of the village was not occupied.