Add fractions

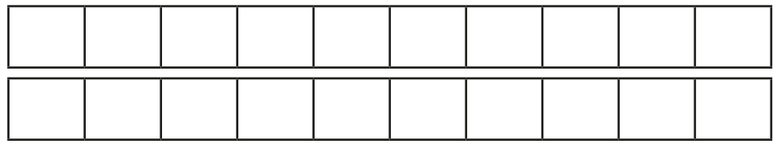
1 Complete the calculations.

Use the bar models to help you.

a)

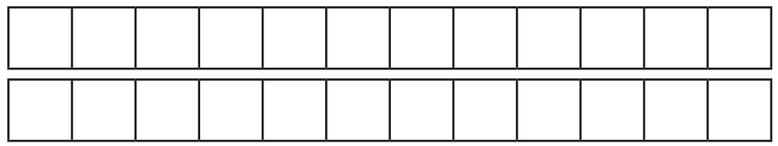
$\frac{1}{2} + \frac{7}{10} = \square = \square$

b)



$\frac{1}{2} + \frac{3}{10} + \frac{1}{5} = \square = \square$

c)



$\frac{2}{3} + \frac{5}{6} + \frac{1}{12} = \square = \square$

2 Complete the additions.

a) $\frac{4}{5} + \frac{7}{20} = \square = \square$

b) $\frac{5}{4} + \frac{7}{20} = \square = \square$

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

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

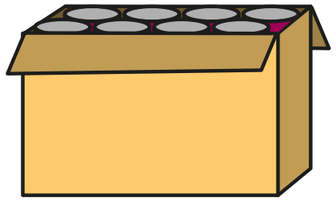
e) $\frac{3}{5} + \frac{11}{15} = \square = \square$

f) $\frac{5}{3} + \frac{11}{15} = \square = \square$

3 Match the additions that have the same answer.

$\frac{3}{5} + \frac{9}{20}$	$\frac{16}{20} + \frac{9}{20}$
$\frac{3}{4} + \frac{9}{20}$	$\frac{12}{20} + \frac{9}{20}$
$\frac{4}{5} + \frac{9}{20}$	$\frac{14}{20} + \frac{9}{20}$
$\frac{7}{10} + \frac{9}{20}$	$\frac{15}{20} + \frac{9}{20}$

4 Dexter has some tins of food. There are four types of food: beans, sweetcorn, soup and tomatoes.



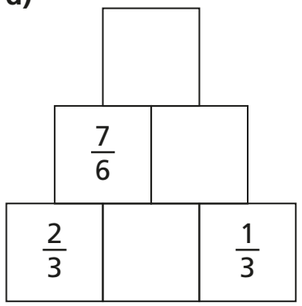
- The total weight of all the tins is 2 kg.
- The tins of beans weigh $\frac{2}{3}$ kg.
- The tins of sweetcorn weigh $\frac{5}{12}$ kg.
- The tins of soup weigh $\frac{1}{4}$ kg.

a) Work out the total weight of the tins of beans, sweetcorn and soup.

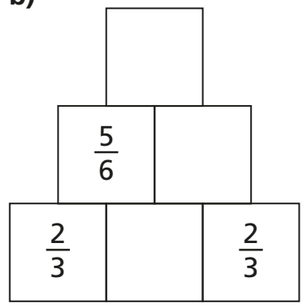
b) How much do the tins of tomatoes weigh?

5 Complete the addition pyramids.

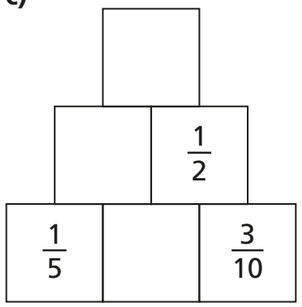
a)



b)



c)



6 What could the three missing numerators be?

$$\frac{\square}{4} + \frac{\square}{12} + \frac{\square}{3} = \frac{13}{12}$$

Give three different possibilities.

$$\frac{\square}{4} + \frac{\square}{12} + \frac{\square}{3} = \frac{13}{12}$$

$$\frac{\square}{4} + \frac{\square}{12} + \frac{\square}{3} = \frac{13}{12}$$

$$\frac{\square}{4} + \frac{\square}{12} + \frac{\square}{3} = \frac{13}{12}$$

Add mixed numbers

1 Teddy and Mo are adding mixed numbers.

Teddy

$3\frac{1}{4} + 2\frac{5}{8} = 5 + \frac{7}{8} = 5\frac{7}{8}$

$3\frac{1}{4} + 2\frac{5}{8} = \frac{26}{8} + \frac{21}{8} = \frac{47}{8} = 5\frac{7}{8}$

Mo

Whose method do you prefer? _____

Talk about it with a partner.

2 Complete the calculations.

a) $1\frac{2}{5} + 2\frac{3}{10} =$ ☐

b) $2\frac{2}{5} + 2\frac{3}{10} =$ ☐

c) $1\frac{3}{4} + 3\frac{3}{20} =$ ☐

d) $1\frac{3}{16} + 4\frac{3}{4} =$ ☐

e) $4\frac{1}{4} + 2\frac{11}{16} =$ ☐

f) $1\frac{4}{15} + 3\frac{2}{3} =$ ☐

3

$2\frac{3}{5} + 1\frac{7}{10} = 3 + \frac{13}{10} = 3\frac{13}{10}$

How can Ron improve his answer?

_____

_____

4 Complete the additions.

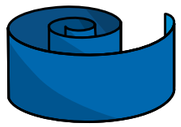
a) $2\frac{3}{4} + 3\frac{5}{12} =$ ☐

b) $3\frac{2}{3} + 2\frac{7}{12} =$ ☐

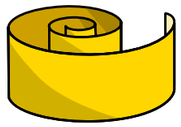
c) $5\frac{1}{6} + 3\frac{11}{12} =$ ☐

d) $6\frac{7}{15} + 3\frac{3}{5} =$ ☐

5 A blue ribbon is $2\frac{4}{9}$ metres long.



A yellow ribbon is $3\frac{2}{3}$ metres long.

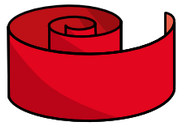


a) What is the total length of the blue and yellow ribbon?

☐ m

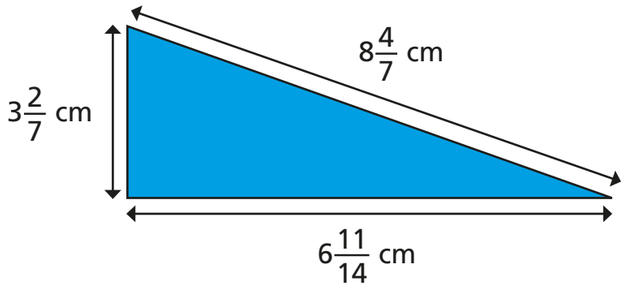
b) A red ribbon is $1\frac{5}{18}$ metres longer than the yellow ribbon.

How long is the red ribbon?



☐ m

6 Calculate the perimeter of the triangle.



☐ cm

7 Complete the calculation in three different ways.

☐ $\frac{\square}{5}$ + ☐ $\frac{\square}{15}$ = $6 + \frac{11}{15}$ = ☐

☐ $\frac{\square}{5}$ + ☐ $\frac{\square}{15}$ = $6 + \frac{11}{15}$ = ☐

☐ $\frac{\square}{5}$ + ☐ $\frac{\square}{15}$ = $6 + \frac{11}{15}$ = ☐

Compare answers with a partner.

8 Here are some number cards.

$3\frac{1}{6}$	$2\frac{11}{12}$	$2\frac{5}{6}$	$3\frac{5}{6}$	$4\frac{1}{12}$	$4\frac{1}{3}$

a) What is the greatest total you can make with two cards?

☐

b) What is the smallest total you can make with two cards?

☐

Subtract fractions

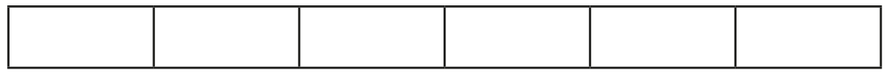
1 Complete the subtractions.

Use the bar models to help you.

a)

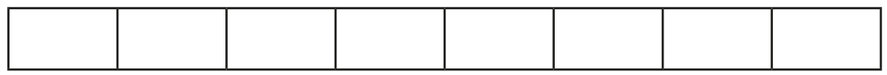
$\frac{5}{6} - \frac{1}{2} = \square$

b)



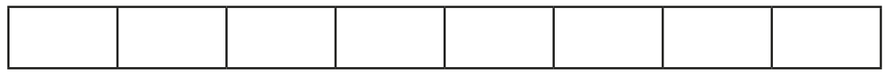
$\frac{5}{6} - \frac{1}{3} = \square$

c)



$\frac{7}{8} - \frac{3}{4} = \square$

d)



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

2 Match the equivalent calculations.

$\frac{3}{4} - \frac{3}{20}$	$\frac{10}{20} - \frac{3}{20}$
$\frac{4}{5} - \frac{3}{20}$	$\frac{16}{20} - \frac{3}{20}$
$\frac{7}{10} - \frac{3}{20}$	$\frac{15}{20} - \frac{3}{20}$
$\frac{1}{2} - \frac{3}{20}$	$\frac{14}{20} - \frac{3}{20}$

3 Jack walks $\frac{7}{9}$ km to school.

Aisha walks $\frac{2}{3}$ km to school.

How much further does Jack walk than Aisha?

Jack walks $\square$ km further than Aisha.

4 Complete the subtractions.

a) $\frac{7}{8} - \frac{1}{16} = \square$

$\frac{5}{8} - \frac{1}{16} = \square$

$\frac{3}{8} - \frac{1}{16} = \square$

$\frac{1}{8} - \frac{1}{16} = \square$

b) $\frac{6}{7} - \frac{2}{21} = \square$

$\frac{5}{7} - \frac{4}{21} = \square$

$\frac{4}{7} - \frac{6}{21} = \square$

$\frac{3}{7} - \frac{8}{21} = \square$

What do you notice?

5 On Saturday, Alex cycles for $\frac{2}{3}$ of an hour.

On Sunday, she cycles for $\frac{5}{12}$ of an hour.

a) How many more hours does Alex cycle on Saturday than Sunday?

$\square$ of an hour

b) How many more minutes does Alex cycle on Saturday than Sunday?

$\square$ minutes

6 Here are some fraction cards.

$\frac{1}{3}$	$\frac{5}{6}$	$\frac{1}{2}$	$\frac{11}{12}$	$\frac{3}{4}$

a) Which two fractions have a difference of $\frac{1}{4}$?

$\square - \square = \frac{1}{4}$

b) Which two fractions have a difference of $\frac{1}{2}$?

$\square - \square = \frac{1}{2}$

c) Which two fractions have a difference of $\frac{1}{12}$?

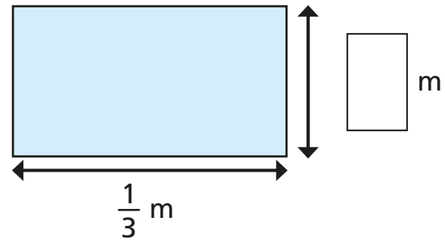
Give two possible pairs.

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

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

7 The perimeter of the rectangle is $\frac{14}{15}$ m.

Work out the missing length.

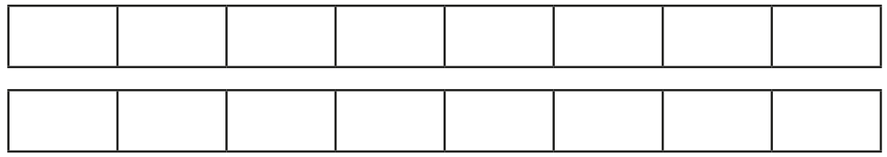


Subtract mixed numbers

1 Complete the subtractions.

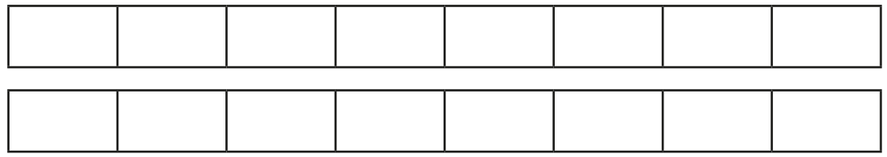
Use the bar models to help you.

a)



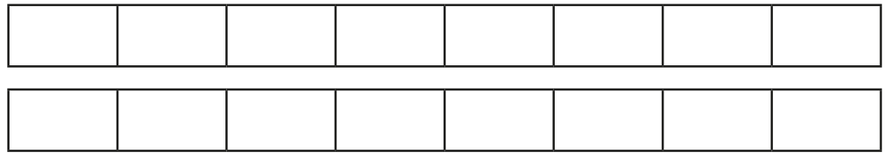
$\frac{15}{8} - \frac{1}{2} = \square$

b)



$1\frac{7}{8} - \frac{3}{4} = \square$

c)

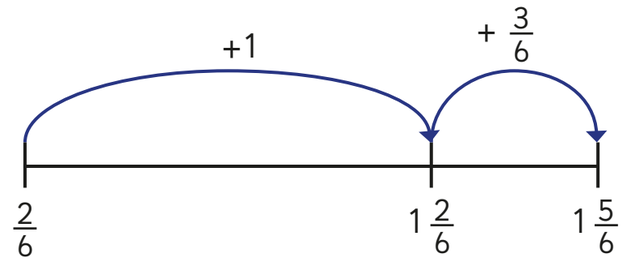


$1\frac{1}{2} - \frac{3}{8} = \square$

2 Dexter and Whitney are using number lines to work out $1\frac{5}{6} - \frac{1}{3}$

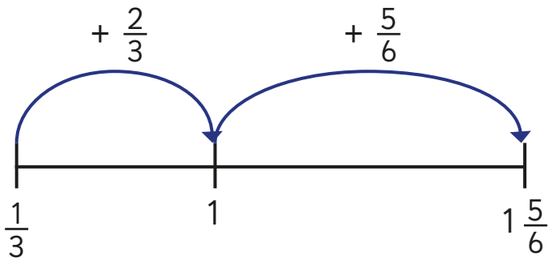
Dexter's method

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



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

Whitney's method



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

$\frac{4}{6} + \frac{5}{6} = \frac{9}{6} = 1\frac{1}{2}$

What is the same and what is different about these methods?

Use one of the methods to work out $1\frac{5}{8} - \frac{3}{16}$

$1\frac{5}{8} - \frac{3}{16} = \square$

3 Complete the subtractions.

a) $3\frac{1}{4} - \frac{5}{24} = \square$

b) $3\frac{3}{16} - \frac{1}{8} = \square$

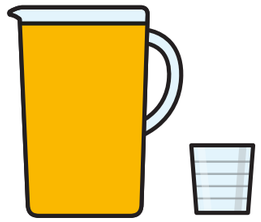
c) $2\frac{5}{6} - \frac{2}{3} = \square$

d) $7\frac{5}{6} - \frac{13}{24} = \square$

e) $4\frac{4}{9} - \frac{4}{27} = \square$

f) $6\frac{11}{12} - \frac{3}{4} = \square$

4 A jug contains $1\frac{3}{5}$ litres of orange juice.



Eva pours $\frac{4}{15}$ litres into a glass.

How much orange juice is left in the jug?

There are $\square$ litres of orange juice left in the jug.

5 Find three different ways to complete the calculation.

$3\frac{\square}{5} - \frac{\square}{20} = 3\frac{1}{20}$

$3\frac{\square}{5} - \frac{\square}{20} = 3\frac{1}{20}$

$3\frac{\square}{5} - \frac{\square}{20} = 3\frac{1}{20}$

Are there any other ways to complete this calculation?

6 Three children take part in throwing competitions.

Here is the table of results.

	Javelin	Shot Put	Discus
Dexter	$15\frac{1}{4}$ m	$7\frac{5}{12}$ m	
Amir	$13\frac{3}{8}$ m		$12\frac{7}{8}$ m
Annie		9 m	$11\frac{5}{12}$ m

Use the clues to complete the table.

- Annie's javelin throw is $\frac{11}{12}$ m less than Dexter's.
- Amir's shot put throw is $\frac{3}{4}$ m less than Annie's.
- Dexter's discus throw is $\frac{1}{2}$ m less than Amir's