

Home Learning **MATHS** week 6

Monday - Week 3 summer term lesson 1

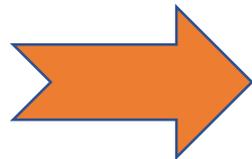
Tuesday - Week 3 summer term Lesson 2

Wednesday - Week 3 summer term lesson 2

Thursday - Week 3 summer term lesson 3

Friday - Week 3 summer term lesson 4

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Lesson 1 - Monday

LO: simplifying fractions

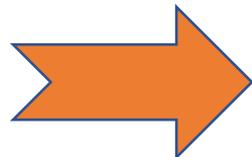
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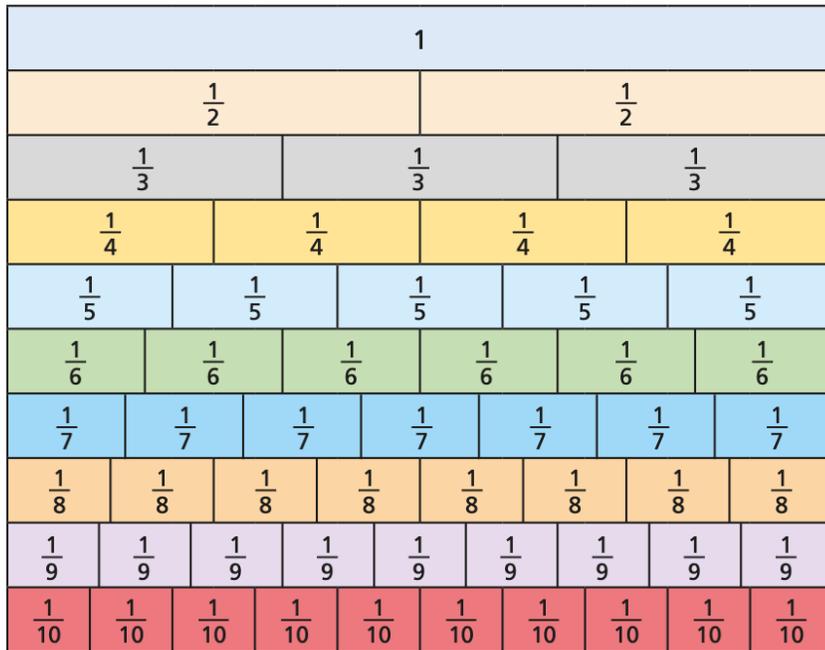
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Simplify fractions

1



Use the fraction wall to write each fraction in its simplest form.

a) $\frac{4}{6} =$

c) $\frac{6}{8} =$

b) $\frac{8}{10} =$

d) $\frac{4}{8} =$

2

a) Use a fraction wall to explain why $\frac{7}{10}$ does not simplify.

b) Find three more fractions on the fraction wall that cannot be simplified.

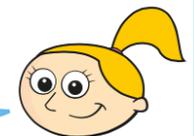
3

Mo, Eva and Ron are trying to simplify $\frac{5}{20}$



Mo

I can't simplify this because one number is odd and the other is even.



Eva

I can't simplify this because only one number can be halved.



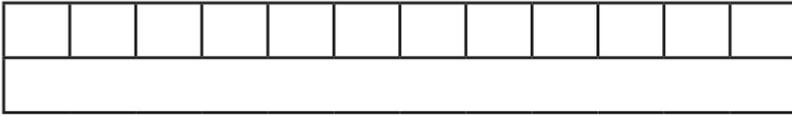
Ron

I can simplify any fraction.

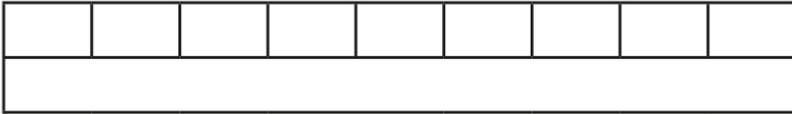
Do you fully agree, partly agree or completely disagree with each person?

Talk to a partner.

- 4 a) Draw lines on the bar model to show that $\frac{9}{12}$ is equal to $\frac{3}{4}$



- b) Complete each bar model and calculation.



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



$$\square = \frac{5}{15}$$

- 5 Simplify the fractions.

a) $\frac{4}{12} = \square$	b) $\frac{8}{12} = \square$	c) $\frac{40}{120} = \square$	d) $\frac{12}{4} = \square$
$\frac{4}{16} = \square$	$\frac{8}{16} = \square$	$\frac{40}{160} = \square$	$\frac{120}{4} = \square$
$\frac{4}{20} = \square$	$\frac{8}{20} = \square$	$\frac{40}{200} = \square$	$\frac{12}{400} = \square$

Describe and explain any patterns that you noticed.



- 6 Write 3 fractions that simplify to $\frac{3}{5}$

- 7 Teddy and Dora are both simplifying $\frac{30}{42}$

Teddy

$$\frac{30}{42} = \frac{15}{21} = \frac{5}{7}$$

Dora

$$\frac{30}{42} = \frac{5}{7}$$

- a) How do you think Dora was able to simplify the fraction in one step?
 b) Simplify these fractions in one step.

$$\frac{24}{30} = \square \quad \frac{16}{20} = \square$$

$$\frac{56}{64} = \square \quad \frac{99}{121} = \square$$

8



is a prime number.



is a multiple of 10

The fraction can be simplified.

What could each number be? Explain your reasoning.

TASK

Find the total of the fractions.
Give your answer in its simplest form.

$$\frac{5}{9} + \frac{1}{9} = \quad \frac{5}{9} + \frac{3}{9} = \quad \frac{5}{9} + \frac{7}{9} =$$

Do all the answers need simplifying?
Explain why.

Tommy is simplifying $4 \frac{12}{16}$

$$4 \frac{12}{16} = 1 \frac{3}{4}$$

Explain Tommy's mistake.

Sort the fractions into the table.

Simplifies to $\frac{1}{2}$	Simplifies to $\frac{1}{3}$	Simplifies to $\frac{1}{4}$

$\frac{5}{15}$	$\frac{2}{4}$	$\frac{4}{16}$	$\frac{8}{16}$	$\frac{5}{10}$	$\frac{3}{9}$	$\frac{6}{12}$	$\frac{2}{8}$
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Can you see any patterns between the numbers in each column?

What is the relationship between the numerators and denominators?

Can you add three more fractions to each column?

Complete the sentence to describe the patterns:

When a fraction is equivalent to _____, the numerator is _____ the denominator.

Lesson 2 - Tuesday

LO: compare and order fractions (denominator)

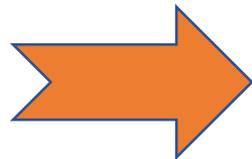
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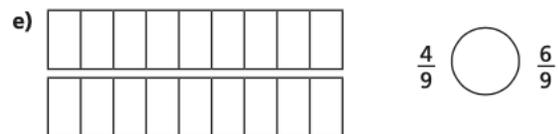
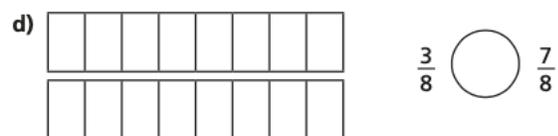
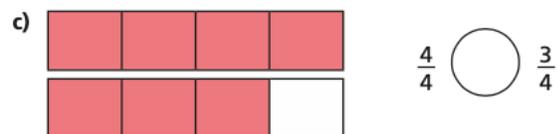
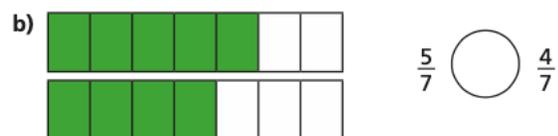


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Compare and order (denominator)

1 Write $<$, $>$ or $=$ to compare the fractions.

Use the bar models to help you.



f) What do you notice about your answers?

g) Complete the sentence.

When the denominators are the same, the _____

the numerator, the _____ the fraction.

2 a) Colour the bar models to show the fractions.



b) Use the bar models to sort these fractions in order from greatest to smallest.



greatest

smallest

c) Order the fractions from smallest to greatest.



smallest

greatest



- 3 Amir is comparing the fractions $\frac{4}{15}$ and $\frac{3}{10}$

$$\frac{4}{15} = \frac{8}{30} \quad \frac{3}{10} = \frac{9}{30}$$

$\frac{9}{30}$ is greater than $\frac{8}{30}$

$\frac{3}{10}$ is greater than $\frac{4}{15}$

Explain Amir's method.

- 4 Ron and Rosie are practising penalties.

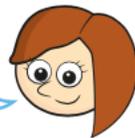
Ron scored 7 out of 10.

Rosie scored 23 out of 30



I did not miss as many as you, so I should take the penalties.

I scored more than you, so I should take penalties for the school team.



Compare fractions to explain who should take penalties for the school team.

- 5 Write $<$, $>$ or $=$ to compare the fractions.

a) $\frac{3}{4}$ ○ $\frac{5}{6}$

d) $\frac{3}{5}$ ○ $\frac{5}{7}$

b) $\frac{2}{3}$ ○ $\frac{5}{9}$

e) $\frac{9}{10}$ ○ $\frac{3}{4}$

c) $\frac{2}{3}$ ○ $\frac{7}{8}$

f) $\frac{9}{10}$ ○ $\frac{19}{20}$

- 6 Annie, Tommy and Kim are making flags for the school fair.

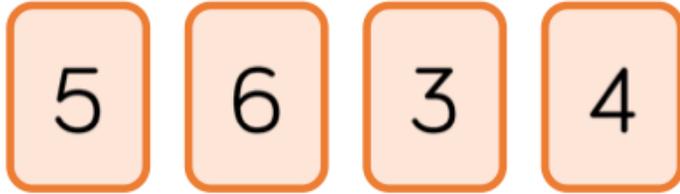
Annie has completed $3\frac{3}{4}$ flags, Tommy has completed $3\frac{2}{3}$ flags and Kim has completed $\frac{18}{5}$ flags.

Who has completed the most flags?



TASK

Use the digit cards to complete the statements.



$$\frac{\boxed{}}{\boxed{4}} > \frac{\boxed{}}{\boxed{6}} \quad \frac{\boxed{}}{\boxed{4}} < \frac{\boxed{6}}{\boxed{}}$$

Find three examples of ways you could complete the statement.

$$\frac{\boxed{}}{\boxed{}} < \frac{\boxed{}}{\boxed{}}$$

Can one of your ways include an improper fraction?

Teddy is comparing $\frac{3}{8}$ and $\frac{5}{12}$



To find the lowest common multiple, I will multiply 8 and 12 together.

$$8 \times 12 = 96$$

I will use a common denominator of 96

Is Teddy correct?
Explain why.

Lesson 3 - Wednesday

LO: compare and order fractions (numerator)

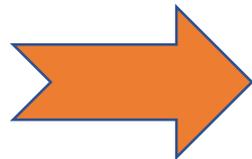
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Compare and order (numerator)

1 Use strips of paper to represent the fractions and complete the sentences.

a) $\frac{1}{3}$, $\frac{1}{5}$ and $\frac{1}{6}$

The smallest fraction is The greatest fraction is

b) $\frac{2}{3}$, $\frac{2}{5}$ and $\frac{2}{6}$

The smallest fraction is The greatest fraction is

c) $\frac{3}{3}$, $\frac{3}{5}$ and $\frac{3}{6}$

The smallest fraction is The greatest fraction is

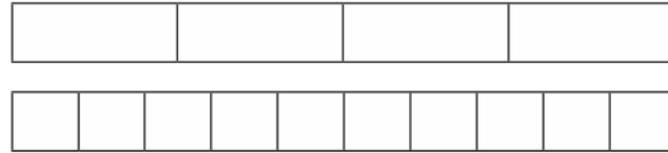
d) What do you notice about your answers?

e) Complete the sentence.

When the _____ are the same, the _____
the denominator, the _____ the fraction.



2 a) Colour the bar models to compare $\frac{3}{4}$ and $\frac{6}{10}$



b) Write <, > or = to complete the statement.



3 Which is the greatest fraction? Circle your answer.

$\frac{3}{100}$

$\frac{3}{1000}$

$\frac{3}{500}$

How do you know?

4 Write < or > to compare the fractions.

a) $\frac{1}{7}$ ○ $\frac{1}{9}$

d) $\frac{11}{12}$ ○ $\frac{11}{11}$

b) $\frac{4}{5}$ ○ $\frac{4}{7}$

e) $\frac{19}{5}$ ○ $\frac{19}{6}$

c) $\frac{3}{13}$ ○ $\frac{3}{8}$

f) $\frac{107}{53}$ ○ $\frac{107}{40}$

- 5 Explain how can you compare $\frac{2}{3}$ and $\frac{4}{5}$ using the same numerator rule.

Complete the sentence to compare $\frac{2}{3}$ and $\frac{4}{5}$

is greater than

- 6 Scott scored 20 out of 24 in a game.

Dani scored 5 out of 7

Compare their scores.

Explain who you think did best and why.



- 7 Write $<$, $>$ or $=$ to complete each statement.

a) $\frac{2}{5}$ $1\frac{1}{3}$ b) $\frac{2}{5}$ $\frac{6}{11}$ c) $3\frac{2}{3}$ $\frac{11}{4}$

$1\frac{2}{5}$ $\frac{1}{3}$ $1\frac{2}{5}$ $3\frac{6}{11}$ $11\frac{2}{9}$ $\frac{101}{3}$

$1\frac{2}{5}$ $1\frac{1}{3}$ $3\frac{2}{5}$ $3\frac{6}{11}$ $11\frac{1}{9}$ $\frac{100}{8}$

$\frac{12}{5}$ $\frac{12}{3}$ $\frac{12}{5}$ $\frac{36}{11}$ $27\frac{3}{4}$ $\frac{111}{3}$

- 8 Explain how you know when it is best to compare the numerators or denominators of two fractions.

TASK

Mo is comparing the fractions $\frac{3}{7}$ and $\frac{6}{11}$

He wants to find a common denominator.

Explain whether you think this is the most effective strategy.

Two different pieces of wood have had a fraction chopped off.

Here are the pieces now, with the fraction that is left.



Which piece of wood was the longest to begin with?

Explain your answer.

Can you explain your method?

Lesson 4 - Thursday

LO: add and subtract fractions

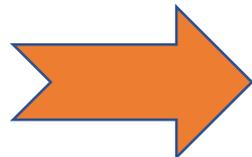
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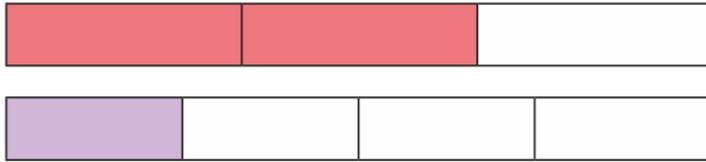
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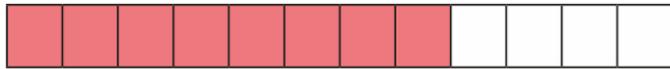
Add and subtract fractions (2)

- 1 Amir is using fraction strips to work out $\frac{2}{3} + \frac{1}{4}$



Amir says he needs to find a common denominator.

- a) Complete Amir's method.



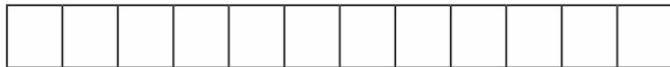
$$\frac{2}{3} = \frac{\square}{12}$$



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

$$\frac{2}{3} + \frac{1}{4} = \frac{\square}{12} + \frac{\square}{12} = \frac{\square}{12}$$

- b) Show the addition on the fraction strip.



- c) Could you have used a different denominator?

- 2 What common denominator can you use to add the fractions?

a) $\frac{2}{5} + \frac{1}{2}$ Common denominator =

b) $\frac{2}{3} + \frac{4}{5}$ Common denominator =

c) $\frac{7}{8} - \frac{1}{4}$ Common denominator =

d) $\frac{7}{9} - \frac{1}{6}$ Common denominator =

e) $\frac{11}{15} + \frac{3}{10}$ Common denominator =

- 3 Ron and Eva are working out $\frac{1}{4} + \frac{5}{6}$

Ron's method

$$\frac{1}{4} + \frac{5}{6} = \frac{3}{12} + \frac{10}{12} = \frac{13}{12}$$

Eva's method

$$\frac{1}{4} + \frac{5}{6} = \frac{6}{24} + \frac{20}{24} = \frac{26}{24}$$

- a) What is the same about Ron's and Eva's methods?

- b) What is different about their methods?

- c) Which method do you prefer? Why?



4 Complete the calculations.

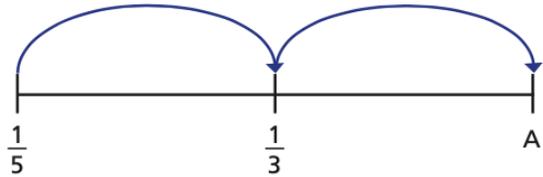
a) $\frac{1}{5} + \frac{3}{4} = \square$

c) $\frac{1}{2} - \frac{1}{7} = \square$

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

d) $\frac{11}{18} + \frac{7}{12} = \square$

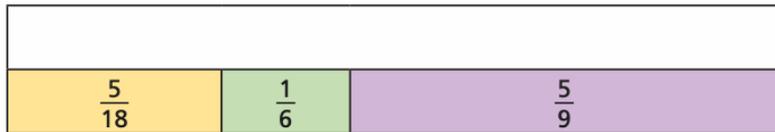
5 Mo is drawing jumps on a number line.
The jumps are the same size.



a) What is the size of the jump?

b) What is the value of A?

6 Complete the bar model.



7 Complete the additions.

Give your answers as mixed numbers and as improper fractions.

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

c) $\frac{9}{8} + \frac{8}{9} = \square = \square$

b) $\frac{2}{3} + \frac{3}{2} = \square = \square$

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

What patterns do you notice?

8 Look at these additions.

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

$$\frac{1}{2} + \frac{1}{3} + \frac{1}{4} = \square$$

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

a) When does this pattern first give an answer greater than 2?

b) Do you think the pattern will ever give an answer greater than 100?

TASK

Use the same digit in both boxes to complete the calculation.

Is there more than one way to do it?

$$\frac{\boxed{}}{\boxed{20}} + \frac{\boxed{1}}{\boxed{}} = \frac{\boxed{9}}{\boxed{20}}$$

Dexter subtracted $\frac{3}{5}$ from a fraction and his answer was $\frac{8}{45}$

What fraction did he subtract $\frac{3}{5}$ from?
Give your answer in its simplest form.

Alex is adding fractions.

$$\frac{3}{5} + \frac{1}{15} = \frac{4}{20} = \frac{1}{5}$$

Do you agree with her?
Explain your answer.

TASK

A car is travelling from Halifax to Brighton.
In the morning, it completes $\frac{2}{3}$ of the journey.

In the afternoon, it completes $\frac{1}{5}$ of the journey.

What fraction of the journey has been travelled altogether?

What fraction of the journey is left to travel?

If the journey is 270 miles, how far did the car travel in the morning?

How far did the car travel in the afternoon?

How far does the car have left to travel?



Mr and Mrs Rose are knitting scarves.

Mr Rose's scarf is $\frac{5}{9}$ m long.

Mrs Rose's scarf is $\frac{1}{5}$ m longer than Mr Rose's scarf.

How long is Mrs Rose's scarf?

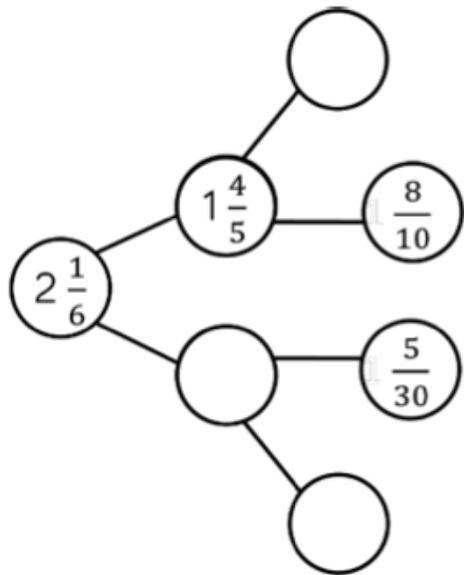
How long are both the scarves altogether?

Fill in the boxes to make the calculation correct.

$$\boxed{1} \frac{\boxed{}}{\boxed{10}} = \frac{\boxed{3}}{\boxed{}} + \frac{\boxed{}}{\boxed{10}}$$

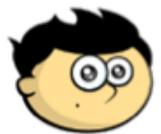
TASK

Complete the part-whole model.



Jack is calculating $4\frac{2}{7} - 2\frac{6}{7}$

He adds $\frac{1}{7}$ to both numbers.



$$4\frac{2}{7} - 2\frac{6}{7} = 4\frac{3}{7} - 3$$

so the answer is $1\frac{3}{7}$

Explain why Jack is correct.

Dora is baking muffins.

She uses $2\frac{1}{2}$ kg of flour, $1\frac{3}{5}$ kg of sugar
and $1\frac{1}{4}$ kg of butter.

How much flour, sugar and butter does
she use altogether?

How much more flour does she use than
butter?

How much less butter does she use than
sugar?

Lesson 5 - Friday

LO: mixed addition and subtraction

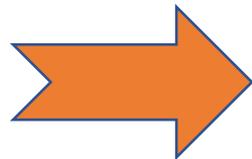
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Mixed addition and subtraction

1 Work out the calculations.

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

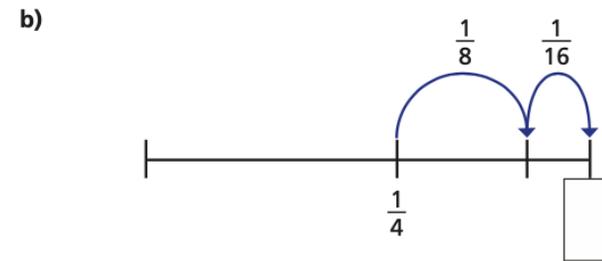
b) $2\frac{1}{4} - \frac{2}{3} =$

c) $3\frac{7}{10} - 2\frac{1}{4} =$

2 Complete the calculation.

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

3 Work out the missing fractions.



4 Complete the calculations.

a) $\frac{2}{5} + \frac{1}{5} +$ $= 1$

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

c) $\frac{2}{5} + \frac{1}{5} +$ $= \frac{4}{3}$

d) $\frac{4}{5} =$ $-\frac{4}{5}$

- 5 Which of these are true and which are false?

Can you decide without having to do the additions or the subtractions?

Talk about your reasons with a partner.

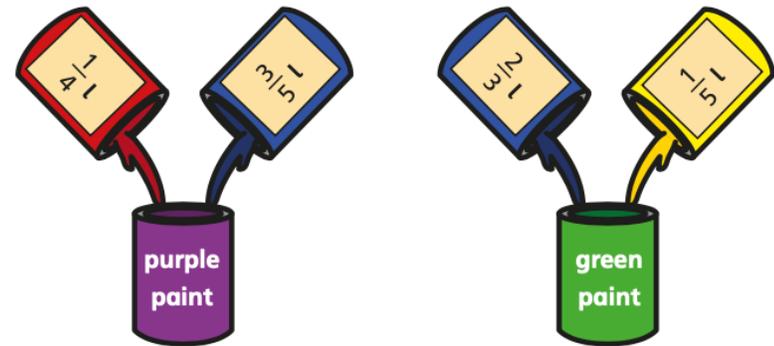
	True or false?
$2\frac{1}{3} + 3\frac{3}{4}$ is equal to $3\frac{1}{3} + 2\frac{3}{4}$	
$3\frac{3}{4} - \frac{1}{3}$ is less than $4\frac{3}{4} - 1\frac{1}{3}$	
$3\frac{3}{4} - 2\frac{1}{3}$ is equal to $3\frac{1}{3} - 2\frac{3}{4}$	

- 6 Complete the addition grid.

$1\frac{1}{4}$		$\frac{1}{4}$	$= 3\frac{3}{5}$
$\frac{1}{25}$	$1\frac{3}{20}$		$= 3\frac{39}{100}$
	$1\frac{1}{50}$	$1\frac{3}{100}$	$= 5\frac{9}{20}$
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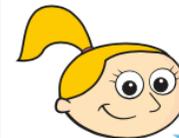
- 7 A painter uses the following mixtures.

How much more green paint does she have than purple paint?



- 8 Eva and Amir are working out this calculation.

$$\frac{1}{4} + \frac{25}{100} - \frac{2}{8} - \frac{9}{36}$$



This is going to be very difficult, because I can't find a common denominator.



I have found an easier way.

Find Amir's solution. Explain how this calculation can be solved.

TASK

The mass of Annie's suitcase is $29\frac{1}{2}$ kg.

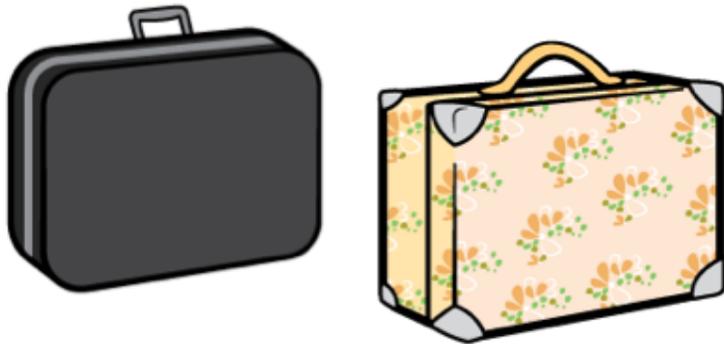
Teddy's suitcase is $2\frac{1}{5}$ kg lighter than Annie's.

How much does Teddy's suitcase weigh?

How much do the suitcases weigh altogether?

There is a weight allowance of 32 kg per suitcase.

How much below the weight allowance are Annie and Teddy?



Find the value of the 

$$\text{heart} + 3\frac{4}{9} = 6\frac{1}{3}$$

$$8\frac{1}{10} - \text{heart} = \text{sun}$$