Lesson 4
21.05.2020

Christchurch Junior School Year 5 Maths

A member of Twynham Learning

Christchurch Junior School

Lesson 4
LO: I can subtract mixed numbers

Warm up-
Choose a level and answer as many of the questions as you can in 2 minutes

★	★★	★★★
A1.ʊ Find the difference between: 5 and 3.	B1.ʊ Find the difference between: 0 and 16.	C1.ʊ Find the difference between: -3 and -12.
A2.ʊ Find the difference between: 4 and 9.	B2.ʊ Find the difference between: 8 and 2.	C2.ʊ Find the difference between: 17 and 18.
A3.ʊ Find the difference between: 8 and 1.	B3.ʊ Find the difference between: -1 and 10.	C3.ʊ Find the difference between: -5 and 20.
A4.ʊ Find the difference between: 2 and 5.	B4.ʊ Find the difference between: 0 and 12.	C4.ʊ Find the difference between: -13 and 0.
A5.ʊ Find the difference between: 9 and 5.	B5.ʊ Find the difference between: -12 and 12.	C5.ʊ Find the difference between: 21 and 1.
A6.ʊ Find the difference between: 0 and 0.	B6.ʊ Find the difference between: -3 and 15.	C6.ʊ Find the difference between: -10 and 20.
A7.ʊ Find the difference between: 10 and 0.	B7.ʊ Find the difference between: -9 and 8.	C7.ʊ Find the difference between: -19 and 14.
A8.ʊ Find the difference between: 11 and 3.	B8.ʊ Find the difference between: -6 and 16.	C8.ʊ Find the difference between: 9 and -22.
A9.ʊ Find the difference between: 14 and 0.	B9.ʊ Find the difference between: -13 and 15.	C9.ʊ Find the difference between: -16 and 10.
A10.ʊ Find the difference between: -9 and 12.	B10.ʊ Find the difference between: -15 and 14.	C10.ʊ Find the difference between: 16 and -21.

Warm up answers

★	★★	★★★
A1.ʊ 2	B1.ʊ 16	C1.ʊ 9
A2.ʊ 5	B2.ʊ 6	C2.ʊ 1
A3.ʊ 7	B3.ʊ 11	C3.ʊ 25
A4.ʊ 3	B4.ʊ 12	C4.ʊ 13
A5.ʊ 4	B5.ʊ 24	C5.ʊ 20
A6.ʊ 0	B6.ʊ 18	C6.ʊ 30
A7.ʊ 10	B7.ʊ 17	C7.ʊ 33
A8.ʊ 8	B8.ʊ 22	C8.ʊ 31
A9.ʊ 14	B9.ʊ 28	C9.ʊ 26
A10.ʊ 21	B10.ʊ 29	C10.ʊ 37

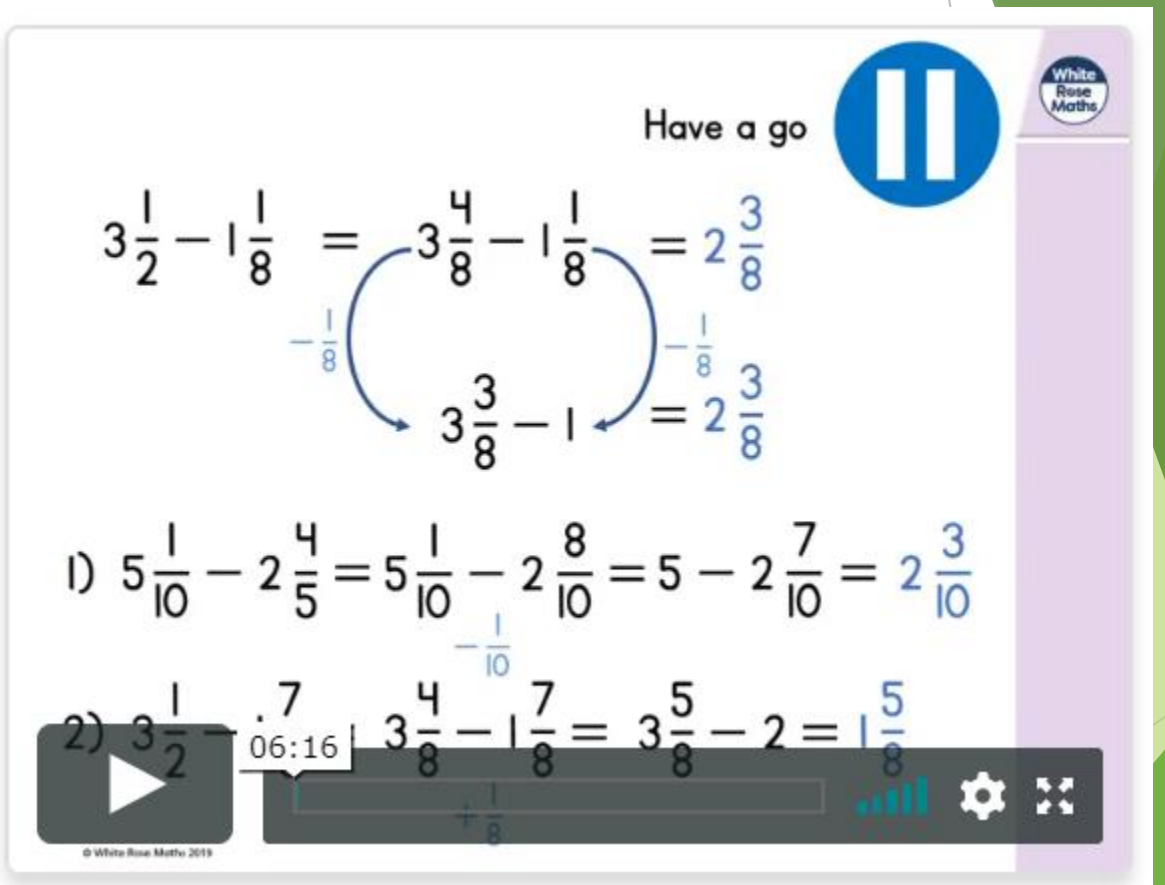
Watch the video by clicking on the screenshot on the next page

After you have watched the video, or when it tells you to, try and answer the questions on the following page

Try not to spend any longer than 30 minutes answering the questions

You will find the answers on the page after the questions, use this to check your answers

Click here

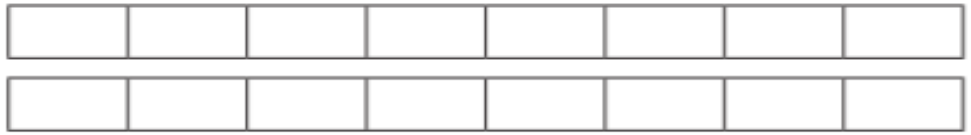

Have a go
$3\frac{1}{2} - 1\frac{1}{8} = 3\frac{4}{8} - 1\frac{1}{8} = 2\frac{3}{8}$
$-\frac{1}{8}$
$-\frac{1}{8}$
$3\frac{3}{8} - 1 = 2\frac{3}{8}$
1) $5\frac{1}{10} - 2\frac{4}{5} = 5\frac{1}{10} - 2\frac{8}{10} = 5 - 2\frac{7}{10} = 2\frac{3}{10}$
$-\frac{1}{10}$
2) $3\frac{1}{2} - 1\frac{7}{8} = 3\frac{4}{8} - 1\frac{7}{8} = 3\frac{5}{8} - 2 = 1\frac{5}{8}$
06:16
$+\frac{1}{8}$

Subtract mixed numbers

1 Complete the subtractions.

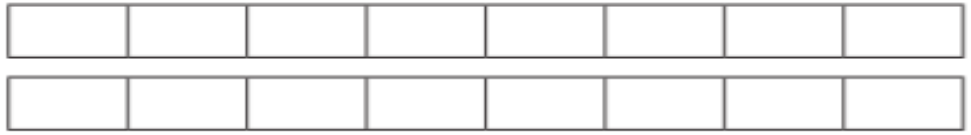
Use the bar models to help you.

a)



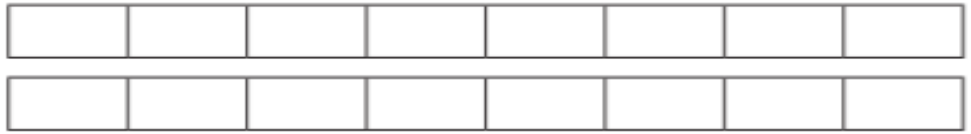
$\frac{15}{8} - \frac{1}{2} = \square$

b)



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

c)

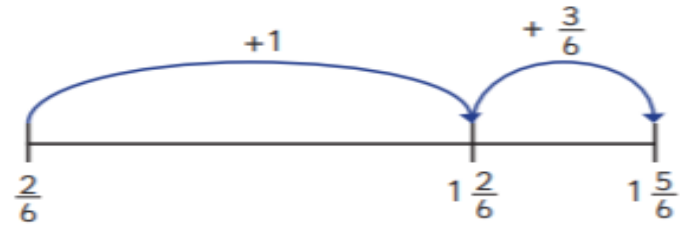


$1\frac{1}{2} - \frac{3}{8} = \square$

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

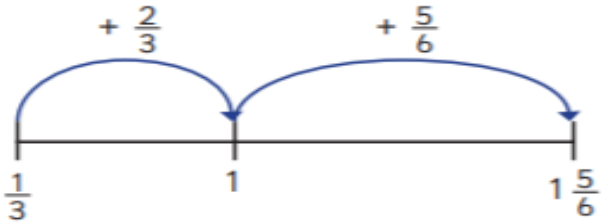
Dexter's method

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



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

Whitney's method

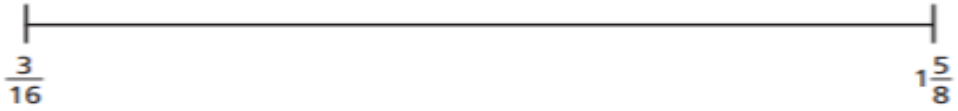


$\frac{2}{3} = \frac{4}{6}$

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

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

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



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

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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

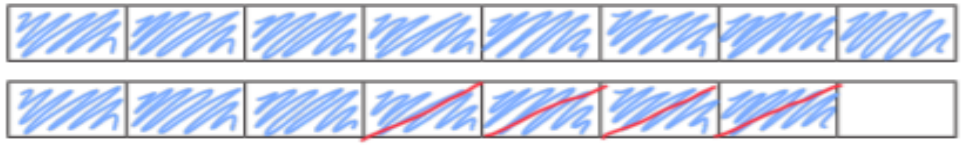
Answers

Subtract mixed numbers

1 Complete the subtractions.

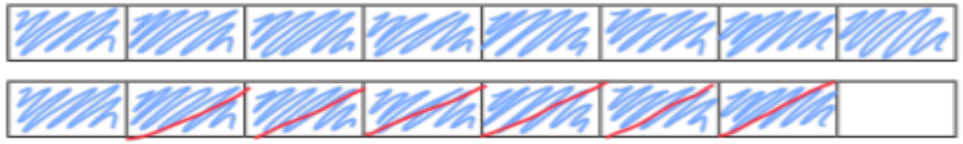
Use the bar models to help you.

a)



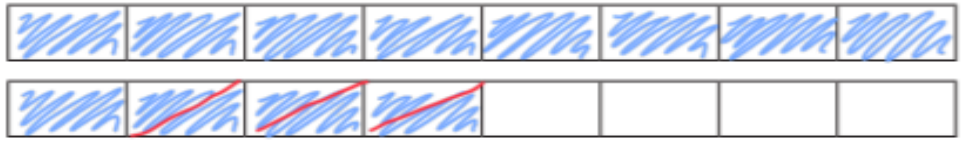
$\frac{15}{8} - \frac{1}{2} = \boxed{1\frac{3}{8}}$

b)



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

c)

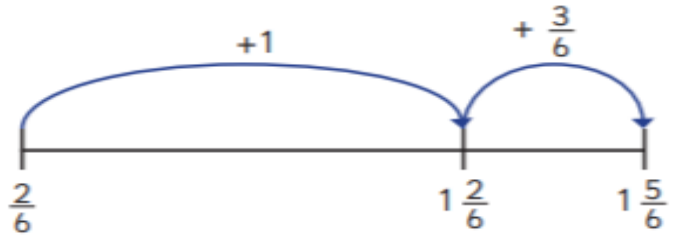


$1\frac{1}{2} - \frac{3}{8} = \boxed{1\frac{1}{8}}$

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

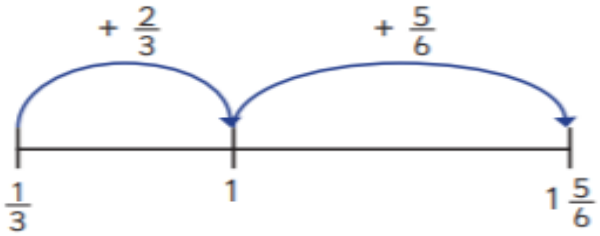
Dexter's method

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



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

Whitney's method



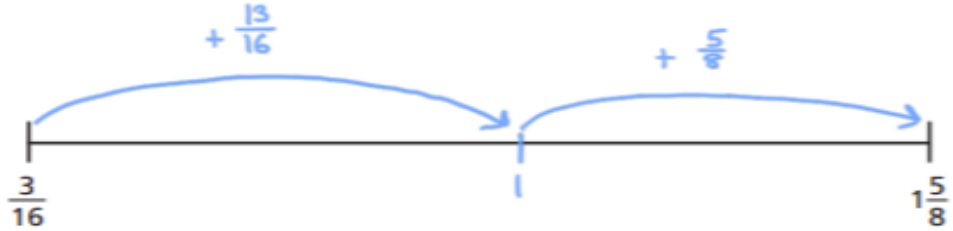
$\frac{2}{3} = \frac{4}{6}$

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

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

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

e.g



$\frac{13}{16} + \frac{10}{16} = \frac{23}{16} = 1\frac{7}{16}$

$1\frac{5}{8} - \frac{3}{16} = \boxed{1\frac{7}{16}}$

3 Complete the subtractions.

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

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

c) $2\frac{5}{6} - \frac{2}{3} =$ $2\frac{1}{6}$

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

e) $4\frac{4}{9} - \frac{4}{27} =$ $4\frac{8}{27}$

f) $6\frac{11}{12} - \frac{3}{4} =$ $6\frac{1}{6}$

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 $1\frac{1}{3}$ litres of orange juice left in the jug.

5 Find three different ways to complete the calculation.

e.g.

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

$3\frac{3}{5} - \frac{11}{20} = 3\frac{1}{20}$

$3\frac{2}{5} - \frac{7}{20} = 3\frac{1}{20}$

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	$12\frac{3}{8}$ m
Amir	$13\frac{3}{8}$ m	$8\frac{1}{4}$ m	$12\frac{7}{8}$ m
Annie	$14\frac{1}{3}$ m	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

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Challenge

6a. Bruce has a fraction on his number card. Find the route across the grid subtracting $\frac{1}{9}$ every time to reach the card at the end of the grid.

$4\frac{8}{9}$	$4\frac{7}{9}$	$4\frac{1}{3}$	$4\frac{4}{9}$	$4\frac{6}{18}$
	$4\frac{15}{27}$	$4\frac{2}{3}$	$4\frac{11}{18}$	$4\frac{12}{27}$
	$4\frac{2}{3}$	$4\frac{12}{18}$	$4\frac{10}{18}$	$4\frac{5}{9}$

$4\frac{2}{3}$

7b. Zack has solved the calculation below.

$$2\frac{3}{5} - \frac{4}{8} = 2\frac{1}{13}$$

Is he correct?
Explain any errors he has made.

Challenge- answers

6a.

$4\frac{7}{9}$	$4\frac{1}{3}$	$4\frac{4}{9}$	$4\frac{6}{18}$
$4\frac{15}{27}$	$4\frac{2}{3}$	$4\frac{11}{18}$	$4\frac{12}{27}$
$4\frac{2}{3}$	$4\frac{12}{18}$	$4\frac{10}{18}$	$4\frac{5}{9}$

7b. No, he should be left with $2\frac{1}{10}$ but he has added the denominators instead of finding the common denominator.

Daily quick task

- Complete 10 minutes of Timetables Rockstar challenges