Varied Fluency
Step 8: Subtracting Fractions

National Curriculum Objectives:

Mathematics Year 6: (6F4) Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

Differentiation:

Developing Questions to support subtracting mixed numbers where denominators are the same.
Expected Questions to support subtracting mixed numbers where denominators are direct multiples of the same number.
Greater Depth Questions to support subtracting mixed numbers where denominators are not always direct multiples of the same number.

More resources which follow the same small steps as White Rose.

Did you like this resource? Don't forget to review it on our website.

© Classroom Secrets Limited 2018

Subtracting Fractions

1a. Which number statement will give the same answer as the calculation in the box below?

$4\frac{1}{5} - 2\frac{4}{5}$

a. $2\frac{6}{5} - 2\frac{4}{5}$

b. $3\frac{6}{5} - 2\frac{4}{5}$

c. $4\frac{3}{5} - 2\frac{4}{5}$

d. $2\frac{1}{5} - 1\frac{4}{5}$

D

VF

Subtracting Fractions

1b. Which number statement will give the same answer as the calculation in the box below?

$3\frac{3}{8} - 1\frac{5}{8}$

a. $3\frac{5}{8} - 1\frac{3}{8}$

b. $2\frac{15}{8} - 1\frac{5}{8}$

c. $2\frac{11}{8} - 1\frac{5}{8}$

d. $3\frac{15}{8} - 1\frac{5}{8}$

D

VF

2a. Ciara is making lemonade.

She makes $6\frac{1}{3}$ litres and sells $4\frac{2}{3}$ litres.



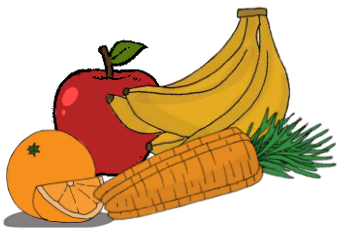
How much lemonade is left?

D

VF

2b. Callum bought $5\frac{1}{4}$ kg of fruit and vegetables.

The fruit weighs $3\frac{3}{4}$ kg.



How much do the vegetables weigh?

D

VF

3a. Add the symbols >, < or = to make the calculations correct.

$4\frac{1}{4} - 2\frac{3}{4} \square 3\frac{3}{4} - 1\frac{1}{4}$

$5\frac{2}{8} - 1\frac{7}{8} \square 7\frac{3}{8} - 3\frac{1}{8}$

$6\frac{1}{6} - 2\frac{4}{6} \square 5\frac{2}{6} - 1\frac{5}{6}$

D

VF

3b. Add the symbols >, < or = to make the calculations correct.

$2\frac{1}{10} - 1\frac{3}{10} \square 2\frac{3}{10} - 1\frac{5}{10}$

$5\frac{3}{12} - 3\frac{9}{12} \square 6\frac{2}{12} - 4\frac{5}{12}$

$4\frac{1}{5} - 1\frac{3}{5} \square 5\frac{2}{5} - 2\frac{4}{5}$

D

VF

© Classroom Secrets Limited 2018

Subtracting Fractions

4a. Which number statement will give the same answer as the calculation in the box below?

$3\frac{4}{5} - 1\frac{6}{10}$

a. $2\frac{1}{5} - 1\frac{6}{10}$

b. $3\frac{8}{5} - 1\frac{6}{10}$

c. $3\frac{8}{10} - 1\frac{6}{10}$

d. $3\frac{6}{10} - 1\frac{4}{5}$

E VF

Subtracting Fractions

4b. Which number statement will give the same answer as the calculation in the box below?

$6\frac{5}{8} - 2\frac{3}{4}$

a. $6\frac{5}{8} - 2\frac{1}{8}$

b. $6\frac{5}{8} - 2\frac{6}{8}$

c. $7\frac{2}{8} - 2\frac{6}{8}$

d. $6\frac{2}{8} - 2\frac{6}{8}$

E VF

5a. Alicia is baking some cakes.

She has $4\frac{3}{4}$ bags of flour.

She uses $2\frac{1}{8}$ bags to make the cakes.





How much flour does she have left?

E VF

5b. Sebastian is on a sponsored run of $5\frac{3}{4}$km.

So far, he has run $2\frac{1}{12}$ km.



How much further does he have to run?

E VF

6a. Add the symbols >, < or = to make the calculations correct.

$3\frac{2}{10} - 1\frac{4}{5} \square 4\frac{1}{10} - 2\frac{2}{5}$

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

$4\frac{2}{3} - 1\frac{3}{6} \square 5\frac{1}{6} - 3\frac{2}{3}$

E VF

6b. Add the symbols >, < or = to make the calculations correct.

$2\frac{1}{6} - 1\frac{5}{12} \square 2\frac{1}{12} - 1\frac{5}{6}$

$6\frac{1}{10} - 4\frac{3}{5} \square 3\frac{2}{5} - 1\frac{6}{10}$

$5\frac{1}{2} - 1\frac{5}{6} \square 4\frac{1}{6} - 1\frac{4}{2}$

E VF

© Classroom Secrets Limited 2018

Subtracting Fractions

7a. Which number statement will give the same answer as the calculation in the box below?

$5\frac{5}{6} - 3\frac{1}{10}$

a. $7\frac{5}{12} - 3\frac{1}{5}$

b. $4\frac{6}{10} - 1\frac{3}{5}$

c. $3\frac{5}{11} - 1\frac{1}{3}$

d. $7\frac{6}{15} - 4\frac{2}{3}$

GD

VF

Subtracting Fractions

7b. Which number statement will give the same answer as the calculation in the box below?

$3\frac{3}{4} - 1\frac{1}{6}$

a. $3\frac{5}{12} - 1\frac{3}{9}$

b. $6\frac{9}{10} - 4\frac{1}{6}$

c. $4\frac{5}{6} - 2\frac{2}{8}$

d. $3\frac{4}{5} - 1\frac{1}{3}$

GD

VF

8a. On Saturday Thomas walked $6\frac{3}{4}$ miles.

He walked $2\frac{1}{6}$ miles less on Sunday.



How far did he walk on Sunday?

GD

VF

8b. Chloe and Zac are eating pizza.

Chloe eats $5\frac{3}{4}$ slices and Zac eats $3\frac{1}{5}$ slices.



How many more slices did Chloe have?

GD

VF

9a. Add the symbols >, < or = to make the calculations correct.

$5\frac{6}{3} - 2\frac{1}{4} \square 6\frac{5}{6} - 3\frac{2}{8}$

$3\frac{7}{12} - 1\frac{1}{4} \square 5\frac{5}{5} - 3\frac{1}{4}$

$7\frac{5}{8} - 3\frac{1}{5} \square 6\frac{4}{5} - 2\frac{1}{10}$

GD

VF

9b. Add the symbols >, < or = to make the calculations correct.

$3\frac{3}{12} - 1\frac{2}{9} \square 6\frac{2}{3} - 3\frac{2}{6}$

$4\frac{6}{9} - 1\frac{1}{6} \square 8\frac{2}{4} - 5\frac{1}{3}$

$9\frac{4}{5} - 3\frac{3}{8} \square 8\frac{4}{10} - 1\frac{1}{2}$

GD

VF

© Classroom Secrets Limited 2018

Varied Fluency
Subtracting Fractions

Developing

1a. B

2a. $1\frac{2}{3}$ litres

3a. <, <, =

Expected

4a. C

5a. $2\frac{5}{8}$ bags

6a. <, >, >

Greater Depth

7a. D

8a. $4\frac{7}{12}$ miles

9a. >, <, <

Varied Fluency
Subtracting Fractions

Developing

1b. C

2b. $1\frac{2}{4}$ kg

3b. =, <, =

Expected

4b. B

5b. $3\frac{2}{3}$ km

6b. >, <, >

Greater Depth

7b. C

8b. $2\frac{11}{20}$ slices

9b. <, >, <

© Classroom Secrets Limited 2018

Reasoning and Problem Solving
Step 8: Subtracting Fractions

National Curriculum Objectives:

Mathematics Year 6: (6F4) Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Calculate the missing values where denominators are the same.
Expected Calculate the missing values where denominators are direct multiples of the same number.
Greater Depth Calculate the missing values where denominators are not always direct multiples of the same number.

Questions 2, 5 and 8 (Problem Solving)
Developing Use clues to create a number sentence that subtracts mixed numbers where denominators are the same.
Expected Use clues to create a number sentence that subtracts mixed numbers where denominators are direct multiples of the same number.
Greater Depth Use clues to create a number sentence that subtracts mixed numbers where denominators are not always direct multiples of the same number.

Questions 3, 6 and 9 (Reasoning)
Developing Identify and explain errors when subtracting mixed numbers where denominators are the same.
Expected Identify and explain errors when subtracting mixed numbers where denominators are direct multiples of the same number.
Greater Depth Identify and explain errors when subtracting mixed numbers where denominators are not always direct multiples of the same number

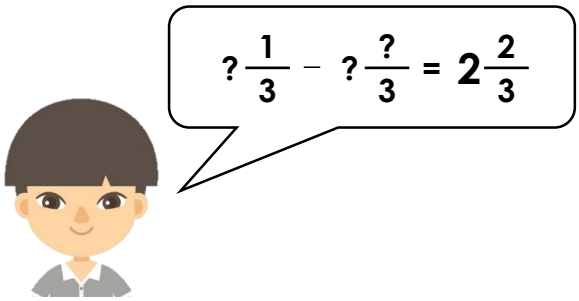
More resources which follow the same small steps as White Rose.

Did you like this resource? Don't forget to review it on our website.

© Classroom Secrets Limited 2018

Subtracting Fractions

1a. Philippe has calculated the answer to a question.

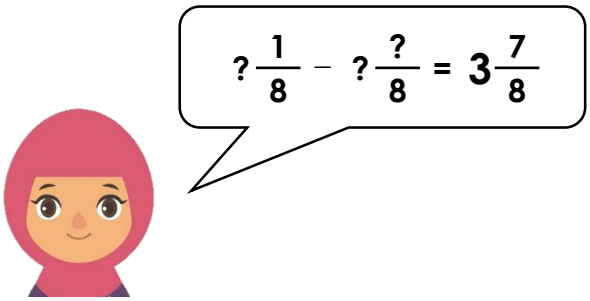


What could the missing values be?

D PS

Subtracting Fractions

1b. Alisha has calculated the answer to a question.



What could the missing values be?

D PS

2a. Use the clues to complete the number sentence and calculate the answer.

$$a\ \frac{d}{c} - b\ \frac{e}{c} = ?\ \frac{?}{?}$$

3 x 2 = a

b = half of a

c + c = 16

d = b

e = 1 less than a

D PS

2b. Use the clues to complete the number sentence and calculate the answer.

$$a\ \frac{b}{c} - d\ \frac{e}{c} = ?\ \frac{?}{?}$$

Half of 10 = a

b = a - 4

c + c = 12

2 x 1 = d

e = a

D PS

3a. Sofie answered the following calculation:



$$3\ \frac{6}{10} - 2\ \frac{7}{10} = 1\ \frac{1}{10}$$

Do you agree with Sofie? Explain.

D R

3b. Max answered the following calculation:



$$7\ \frac{1}{5} - 4\ \frac{3}{5} = 3\ \frac{4}{5}$$

Do you agree with Max? Explain.

D R

© Classroom Secrets Limited 2018

Subtracting Fractions

4a. Darcey has calculated the answer to a question.



$?\frac{4}{12} - ?\frac{?}{4} = 1\frac{1}{12}$

What could the missing values be?

E

PS

Subtracting Fractions

4b. Asher has calculated the answer to a question.



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

What could the missing values be?

E

PS

5a. Use the clues to complete the number sentence and calculate the answer.

$$a\frac{b}{c} - b\frac{d}{e} = ?\frac{?}{?}$$

1 less than 8 = a

b = half of 4

1 more than a = c

d = 1 more than b

e = 2 x 2

E

PS

5b. Use the clues to complete the number sentence and calculate the answer.

$$a\frac{b}{c} - d\frac{a}{e} = ?\frac{?}{?}$$

10 ÷ 2 = a

b = 1 more than 0

c = 9 ÷ 3

d = b

e = half of 18

E

PS

6a. Maddison answered the following calculation:



$$6\frac{1}{9} - 1\frac{2}{3} = 4\frac{4}{9}$$

Do you agree with Maddison? Explain.

E

R

6b. Aiden answered the following calculation:



$$4\frac{1}{4} - 2\frac{5}{12} = 2\frac{10}{12}$$

Do you agree with Aiden? Explain.

E

R

© Classroom Secrets Limited 2018

Subtracting Fractions

7a. Ella has calculated the answer to a question.



$$?\frac{3}{4} - ?\frac{?}{5} = 5\frac{7}{20}$$

What could the missing values be?

GD PS

Subtracting Fractions

7b. Caleb has calculated the answer to a question.



$$?\frac{5}{6} - ?\frac{?}{9} = 2\frac{11}{18}$$

What could the missing values be?

GD PS

8a. Use the clues to complete the number sentence and calculate the answer.

$$a\frac{b}{c} - d\frac{d}{e} = ?\frac{?}{?}$$

Double 2 = a

b = 9 ÷ 3

25 ÷ 5 = c

d = Half of a

e = 2 x 3

GD PS

8b. Use the clues to complete the number sentence and calculate the answer.

$$a\frac{d}{c} - b\frac{b}{e} = ?\frac{?}{?}$$

2 x 2 = a

b = 1 ÷ 1

c + c = 20

d = a

e = 1 less than 8

GD PS

9a. Isaac answered the following calculation:



$$7\frac{1}{4} - 3\frac{4}{10} = 3\frac{17}{20}$$

Do you agree with Isaac? Explain.

GD R

9b. Dylan answered the following calculation:



$$4\frac{4}{5} - 1\frac{2}{9} = 4\frac{1}{15}$$

Do you agree with Dylan? Explain.

GD R

© Classroom Secrets Limited 2018

Reasoning and Problem Solving
Subtracting Fractions

Developing

1a. Various answers, for example:

$5\frac{1}{3} - 2\frac{2}{3}$; $6\frac{1}{3} - 3\frac{2}{3}$; $7\frac{1}{3} - 4\frac{2}{3}$

2a. $6\frac{3}{8} - 3\frac{5}{8} = 2\frac{6}{8}$

3a. No; Sofie has not subtracted the mixed number correctly. The correct answer is $\frac{9}{10}$.

Expected

4a. Various answers, for example:

$3\frac{4}{12} - 2\frac{1}{4}$; $4\frac{4}{12} - 3\frac{1}{4}$; $5\frac{4}{12} - 4\frac{1}{4}$

5a. $7\frac{2}{8} - 2\frac{3}{4} = 4\frac{1}{2}$

6a. Yes; Madison has subtracted the mixed number correctly.

Greater Depth

7a. Various answers including:

$8\frac{3}{4} - 3\frac{2}{5}$; $9\frac{3}{4} - 4\frac{2}{5}$; $10\frac{3}{4} - 5\frac{2}{5}$

8a. $4\frac{3}{5} - 2\frac{2}{6} = 2\frac{4}{15}$

9a. Yes; both fractions can be converted to have denominators over 20.

Reasoning and Problem Solving
Subtracting Fractions

Developing

1b. Various answers, for example:

$6\frac{1}{8} - 2\frac{2}{8}$; $7\frac{1}{8} - 3\frac{2}{8}$; $8\frac{1}{8} - 4\frac{2}{8}$

2b. $5\frac{1}{6} - 2\frac{5}{6} = 2\frac{2}{6}$

3b. No; Max has not subtracted the mixed number correctly. The correct answer is $2\frac{3}{5}$.

Expected

4b. Various answers, for example:

$5\frac{3}{4} - 3\frac{1}{8}$; $6\frac{3}{4} - 4\frac{1}{8}$; $7\frac{3}{4} - 5\frac{1}{8}$

5b. $5\frac{1}{3} - 1\frac{5}{9} = 3\frac{7}{9}$

6b. No; Aiden has not subtracted the mixed number correctly. The correct answer is $1\frac{10}{12}$.

Greater Depth

7b. Various answers including:

$4\frac{5}{6} - 2\frac{2}{9}$; $5\frac{5}{6} - 3\frac{2}{9}$; $6\frac{5}{6} - 4\frac{2}{9}$

8b. $4\frac{4}{10} - 1\frac{1}{7} = 3\frac{9}{35}$

9b. No; Dylan has not subtracted the mixed number correctly. The correct answer is $3\frac{26}{45}$.

© Classroom Secrets Limited 2018