Reasoning and Problem Solving
Step 8: Subtract from Whole Amounts

National Curriculum Objectives:

Mathematics Year 4: (4F4) Add and subtract fractions with the same denominator

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Find three possible solutions to the subtraction calculation where whole amounts are expressed as improper fractions. Pictorial support provided.
Expected Find three possible solutions to the subtraction calculation using pictorial support.
Greater Depth Find three possible solutions to the subtraction calculation where some denominators are double or half another fraction. No pictorial support.

Questions 2, 5 and 8 (Reasoning)
Developing Find the odd one out when subtracting from whole amounts which are expressed as improper fractions. Pictorial support provided.
Expected Find the odd one out when subtracting from whole amounts which are sometimes expressed as improper fractions.
Greater Depth Find the odd one out when subtracting from whole amounts which are sometimes expressed as improper fractions and where the denominators may be double or half another fraction.

Questions 3, 6 and 9 (Reasoning)
Developing Explain if a statement is correct by subtracting from whole amounts which are expressed as improper fractions. Pictorial support provided.
Expected Explain if a statement is correct by subtracting from whole amounts which are expressed as improper fractions.
Greater Depth Explain if a statement is correct by subtracting from whole amounts which are expressed as improper fractions and where the denominators may be double or half another fraction.

More Year 4 Fractions resources.

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

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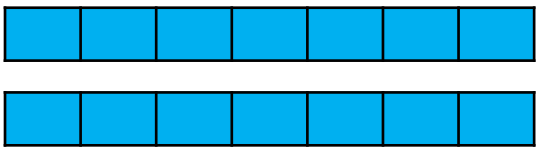
Subtract from Whole Amounts

1a. Use the bar model to create subtraction calculations where a fraction is subtracted from a whole number.



$$\frac{14}{7} - \frac{\square}{7} = \frac{\square}{7}$$

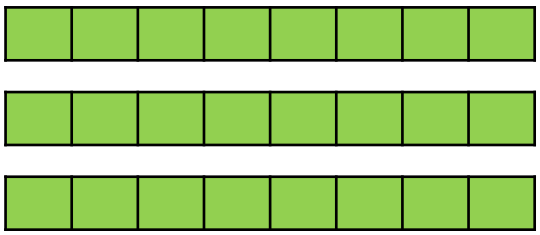
Find 3 possibilities.

D

PS

Subtract from Whole Amounts

1b. Use the bar model to create subtraction calculations where a fraction is subtracted from a whole number.



$$\frac{24}{8} - \frac{\square}{8} = \frac{\square}{8}$$

Find 3 possibilities.

D

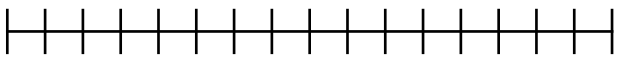
PS

2a. Circle the odd one out.

A. $\frac{15}{5} - \frac{7}{5}$

B. $\frac{15}{5} - \frac{6}{5}$

C. $\frac{20}{5} - \frac{12}{5}$



Explain your reasoning.

D

R

2b. Circle the odd one out.

A. $\frac{18}{6} - \frac{7}{6}$

B. $\frac{12}{6} - \frac{1}{6}$

C. $\frac{12}{6} - \frac{5}{6}$

Explain your reasoning.

D

R

3a. Adam has an improper fraction.
He subtracts it from a whole number and gets a whole number as his answer.

Naila says,

I think Adam's calculation is $\frac{9}{3} - \frac{6}{3}$.

Do you agree with Naila? Explain your answer.

D

R

3b. Rosie has a proper fraction.
She subtracts it from a whole number and gets an improper fraction as her answer.

Connor says,

I think Rosie's calculation is $\frac{4}{4} - \frac{3}{4}$.

Do you agree with Connor? Explain your answer.

D

R

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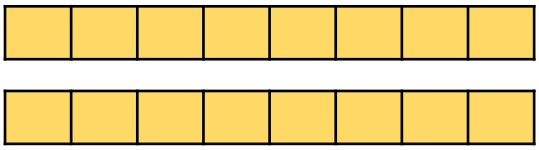
Subtract from Whole Amounts

4a. Use the bar model to create subtraction calculations where an improper fraction is subtracted from a whole number.



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

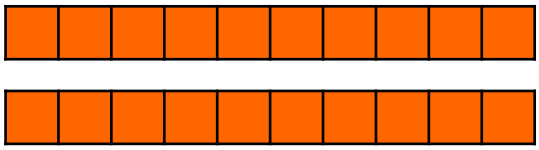
Find 3 possibilities.

E

PS

Subtract from Whole Amounts

4b. Use the bar model to create subtraction calculations where an improper fraction is subtracted from a whole number.



$$2 - \frac{\square}{10} = \frac{\square}{10}$$

Find 3 possibilities.

E

PS

5a. Circle the odd one out.

A. $4 - \frac{4}{6}$

B. $3 - \frac{5}{6}$

C. $\frac{24}{6} - \frac{4}{6}$

Explain your reasoning.

E

R

5b. Circle the odd one out.

A. $6 - \frac{7}{8}$

B. $6 - \frac{15}{8}$

C. $\frac{40}{8} - \frac{7}{8}$

Explain your reasoning.

E

R

6a. Becca has an improper fraction.
She subtracts it from a whole number and gets an improper fraction as her answer.

Fin says,

I think Becca's calculation is $3 - \frac{11}{5}$.

Do you agree with Fin? Explain your answer.

E

R

6b. Arfan has an improper fraction.
He subtracts it from a whole number and gets a fraction less than 1 as his answer.

Daisy says,

I think Arfan's calculation is $\frac{36}{9} - \frac{27}{9}$.

Do you agree with Daisy? Explain your answer.

E

R

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Subtract from Whole Amounts

7a. Find three different ways to complete the calculation below.

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

GD PS

Subtract from Whole Amounts

7b. Find three different ways to complete the calculation below.

$$5 - \frac{\square}{12} = \frac{\square}{6}$$

GD PS

8a. Circle the odd one out.

A. $7 - \frac{13}{9}$

B. $6 - \frac{8}{18}$

C. $\frac{56}{8} - \frac{22}{4}$

Explain your reasoning.

GD R

8b. Circle the odd one out.

A. $9 - \frac{42}{7}$

B. $4 - \frac{10}{12}$

C. $\frac{30}{6} - \frac{6}{3}$

Explain your reasoning.

GD R

9a. Ivan has a proper fraction.
He subtracts it from a whole number and gets an improper fraction as his answer.

Eesa says,

I think Ivan's calculation is $1 - \frac{8}{10}$.

Do you agree with Eesa? Explain your answer.

GD R

9b. Carrie has an improper fraction.
She subtracts it from a whole number and gets an improper fraction as her answer.

Doha says,

I think Carrie's calculation is $\frac{24}{6} - \frac{8}{3}$.

Do you agree with Doha? Explain your answer.

GD R

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Reasoning and Problem Solving Subtract from Whole Amounts

Developing

1a. Various answers, for example:

$\frac{14}{7} - \frac{3}{7} = \frac{11}{7}$

2a. B is the odd one out because it has an answer of $\frac{9}{5}$ instead of $\frac{8}{5}$.

3a. Yes, Naila could be right because the answer is $\frac{3}{3}$ which is the same as 1 whole.

Expected

4a. Various answers, for example:

$2 - \frac{9}{8} = \frac{7}{8}$

5a. B is the odd one out because it has an answer of $\frac{13}{6}$ instead of $\frac{20}{6}$.

6a. No, because $3 - \frac{11}{5} = \frac{4}{5}$ which is not an improper fraction.

Greater Depth

7a. Various answers, for example:

$3 - \frac{2}{8} = \frac{11}{4}$

8a. C is the odd one out because it has an answer of $\frac{6}{4}$ instead of $\frac{50}{9}$.

9a. No, because $1 - \frac{8}{10} = \frac{2}{10}$ which is not an improper fraction.

Reasoning and Problem Solving Subtract from Whole Amounts

Developing

1b. Various answers, for example:

$\frac{24}{8} - \frac{12}{8} = \frac{12}{8}$

2b. C is the odd one out because it has an answer of $\frac{7}{6}$ instead of $\frac{11}{6}$.

3b. No, because $\frac{4}{4} - \frac{3}{4} = \frac{1}{4}$ which is not an improper fraction.

Expected

4b. Various answers, for example:

$2 - \frac{11}{10} = \frac{9}{10}$

5b. A is the odd one out because it has an answer of $\frac{41}{8}$ instead of $\frac{33}{8}$.

6b. No, because $\frac{36}{9} - \frac{27}{9} = \frac{9}{9}$ which is the same as 1 whole and not a fraction less than 1.

Greater Depth

7b. Various answers, for example:

$5 - \frac{14}{12} = \frac{23}{6}$

8b. B is the odd one out because it has an answer of $\frac{38}{12}$ instead of 3.

9b. Yes, Doha could be right because the answer is $\frac{4}{3}$ which is an improper fraction.

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