

Reasoning and Problem Solving

Step 12: Subtract Fractions

National Curriculum Objectives:

Mathematics Year 5: (5F4) [Add and subtract fractions with the same denominator and denominators that are multiples of the same number](#)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Arrange the digit cards to complete the subtraction calculation. Denominators are double or half of the starting fraction.

Expected Arrange the digit cards to complete the subtraction calculation. Denominators are direct multiples of each other.

Greater Depth Arrange the digit cards to complete the subtraction calculation. Denominators are not direct multiples of each other.

Questions 2, 5 and 8 (Reasoning)

Developing Explain the mistake when finding the difference where the denominator is double or half of the starting fraction.

Expected Explain the mistake when finding the difference where the denominators are direct multiples of each other. Includes some improper fractions.

Greater Depth Explain the mistake when finding the difference where the denominators are not direct multiples of each other. Includes some improper fractions.

Questions 3, 6 and 9 (Problem Solving)

Developing Find which subtraction calculation has the greatest answer where the denominator is double or half of the starting fraction.

Expected Find which subtraction calculation has the greatest answer where the denominators are direct multiples of each other.

Greater Depth Find which subtraction calculation has the greatest answer where the denominators are not direct multiples of each other.

More [Year 5 Fractions](#) resources.

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Subtract Fractions

1a. Arrange the number cards to make the calculation below correct.

1 3 2 4

$$\frac{\boxed{}}{4} - \frac{\boxed{}}{8} = \frac{2}{8}$$



PS

Subtract Fractions

1b. Arrange the number cards to make the calculation below correct.

5 10 6 3

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



PS

2a. Mrs Hall shows Class 5 two fractions:

$$\frac{10}{12} \quad \frac{4}{6}$$

Harry says,



The difference between them is $\frac{6}{12}$.

Explain the mistake that he has made.



R

2b. Mr Ross shows Class 5 two fractions:

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

Alana says,



The difference between them is $\frac{3}{3}$.

Explain the mistake that she has made.



R

3a. Two children took their leftover pie home from a café.

Lisa had $\frac{3}{5}$ left and gave her mum $\frac{2}{10}$.

Ben took $\frac{8}{10}$ home and gave his dad $\frac{1}{5}$.

Who is left with the most pie?



PS

3b. Two children took their leftover cookies home from cooking club.

Ann had $\frac{6}{8}$ left and gave her dad $\frac{1}{4}$.

TJ took $\frac{2}{4}$ home and gave his mum $\frac{2}{8}$.

Who is left with the most cookies?



PS

Subtract Fractions

4a. Arrange the number cards to make the calculation below correct.

4 5 8 16 20

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

You can only use a number card once in the calculation.



PS

Subtract Fractions

4b. Arrange the number cards to make the calculation below correct.

24 2 6 5 16

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

You can only use a number card once in the calculation.



PS

5a. Mrs Gill shows Class 5 two fractions:

$$\frac{15}{21} \quad \frac{2}{7}$$

Jason says,



The difference between them is $\frac{13}{14}$.

Explain the mistake that he has made.



R

5b. Mr Toft shows Class 5 two fractions:

$$\frac{30}{27} \quad \frac{6}{9}$$

Nina says,



The difference between them is $\frac{24}{27}$.

Explain the mistake that she has made.



R

6a. Two children took their leftover pizza home from a restaurant.

Jen had $\frac{4}{6}$ left and gave her mum $\frac{4}{24}$.

Ali took $\frac{10}{12}$ home and gave his dad $\frac{1}{3}$.

Who is left with the most pizza?



PS

6b. Two children took their leftover cake home from a birthday party.

Kim had $\frac{6}{8}$ left and gave her dad $\frac{20}{32}$.

Ed took $\frac{12}{16}$ home and gave his mum $\frac{1}{4}$.

Who is left with the most cake?



PS

Subtract Fractions

7a. Arrange the number cards to make the calculation below correct.

15 12 3 2 1 10

$$\begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array} - \begin{array}{|c|} \hline \square \\ \hline 6 \\ \hline \end{array} = \begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array}$$

You can only use a number card once in the calculation.



PS

Subtract Fractions

7b. Arrange the number cards to make the calculation below correct.

6 1 20 4 10 2

$$\begin{array}{|c|} \hline \square \\ \hline 8 \\ \hline \end{array} - \begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array} = \begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array}$$

You can only use a number card once in the calculation.



PS

8a. Mrs Pod shows Class 5 two fractions:

$$\frac{10}{9} \quad \frac{3}{4}$$

Ivan says,



The difference between them is $\frac{7}{5}$.

Explain the mistake that he has made.



R

8b. Mr Ball shows Class 5 two fractions:

$$\frac{4}{7} \quad \frac{2}{3}$$

Kira says,



The difference between them is $\frac{26}{21}$.

Explain the mistake that she has made.



R

9a. Two children took their leftover brownies home from the school disco.

Tess had $\frac{4}{5}$ left and gave her mum $\frac{2}{6}$.

Lee took $\frac{2}{3}$ home and gave his dad $\frac{2}{5}$.

Who is left with the most brownies?



PS

9b. Two children took their leftover sandwiches home from a picnic.

Ella had $\frac{3}{4}$ left and gave her dad $\frac{3}{5}$.

Bo took $\frac{4}{5}$ home and gave his mum $\frac{2}{8}$.

Who is left with the most sandwiches?



PS

Reasoning and Problem Solving

Subtract Fractions

Developing

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

2a. Harry has subtracted the numerator before converting the fraction to twelfths. The correct difference is $\frac{1}{6}$.

3a. Ben has the most pie left because he has $\frac{6}{10}$ or $\frac{3}{5}$ and Lisa has $\frac{4}{10}$ or $\frac{2}{5}$.

Expected

4a. $\frac{4}{5} - \frac{8}{20} = \frac{2}{5}$

5a. Jason has forgotten to find a common denominator and has subtracted the denominator. The correct difference is $\frac{9}{21}$ or $\frac{3}{7}$.

6a. They both have the same amount of pizza left because Jen has $\frac{12}{24}$ or $\frac{1}{2}$ and Ali has $\frac{6}{12}$ or $\frac{1}{2}$.

Greater Depth

7a. $\frac{10}{15} - \frac{2}{6} = \frac{1}{3}$

8a. Ivan has subtracted the numerator and denominator from the starting fraction instead of finding a common denominator. The correct answer is $\frac{13}{36}$.

9a. Tess has the most brownies left because she has $\frac{14}{30}$ or $\frac{7}{15}$ and Lee has $\frac{4}{15}$.

Reasoning and Problem Solving

Subtract Fractions

Developing

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

2b. Alana has subtracted both the numerator and denominator without converting the fraction into sixths. The correct difference is $\frac{2}{6}$ or $\frac{1}{3}$.

3b. Ann has the most cookies left because she has $\frac{4}{8}$ or $\frac{1}{2}$ and TJ has $\frac{2}{8}$ or $\frac{1}{4}$.

Expected

4b. $\frac{5}{6} - \frac{16}{24} = \frac{1}{6}$

5b. Nina has converted the denominator but not the numerator. The correct answer is $\frac{12}{27}$ or $\frac{4}{9}$.

6b. Ed has the most cake left because he has $\frac{8}{16}$ or $\frac{1}{2}$ and Kim has $\frac{4}{32}$ or $\frac{1}{8}$.

Greater Depth

7b. $\frac{6}{8} - \frac{10}{20} = \frac{1}{4}$

8b. Kira has found a common denominator but has added the fractions instead of subtracting to find the difference. The correct answer is $\frac{2}{21}$.

9b. Bo has the most sandwiches left because he has $\frac{22}{40}$ or $\frac{11}{20}$ and Ella has $\frac{3}{20}$.