Subtracting Fraction Multiples

twinkl

Aim

- I can subtract fractions with denominators that are multiples of the same number.

Success Criteria

- I can subtract fractions with the same denominator.
- I can convert between improper and mixed number fractions.
- I can use multiplication to change a fraction into an equivalent.
- I can subtract fractions with denominators that are multiples of the same number.
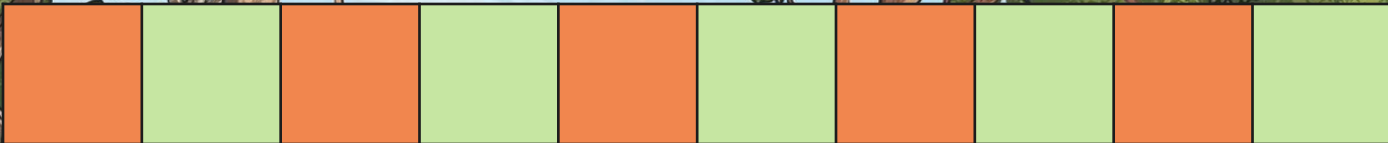
Kangaroo Fractions

Click on Kylie Kangaroo and write the fraction she jumps to as an improper fraction and a mixed number.

0   1 $1\frac{2}{5}$ 2

$\frac{7}{5}$

Kangaroo Fractions

Click on Kylie Kangaroo and write the fraction she jumps to as an improper fraction and a mixed number.

2

$2\frac{3}{4}$

3

4

$\frac{11}{4}$

Kangaroo Fractions

Click on Kylie Kangaroo and write the fraction she jumps to as an improper fraction and a mixed number.

4

5

$5\frac{2}{3}$

6

$\frac{17}{3}$

Same Denominators

In this fraction subtraction, both the fractions have the **same denominator**.

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

To solve the calculation, the **denominator stays the same**, and the **numerators are subtracted**.

Same Denominators

In this fraction subtraction, both the fractions have the **same denominator**.

$$\frac{10}{3} - \frac{2}{3} = \frac{8}{3} = 2\frac{2}{3}$$

1	4	7
2	5	8
3	6	

This answer is an improper fraction. Every whole is made of three parts.

This is the same answer written as a mixed number.

twinkl.com

Same Denominators

In this fraction subtraction, both the fractions have the **same denominator**.

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

This is a mixed number. Change it to an improper fraction before calculating.

1	5	9
2	6	10
3	7	11
4	8	

...answer is an ...oper fraction. ...ge it to a ...ed number.

1	5
2	
3	
4	

This answer can be simplified.

Denominator Multiples

In this fraction subtraction, both the fractions have **different denominators** which are multiples of the same number.

x 2 = 10

$$\frac{5}{3} - \frac{7}{6}$$

x 2 = 6

To solve the calculation, we use **multiplication** to change the fraction with the lowest denominator into an **equivalent fraction** with the same denominator as the other fraction.

Remember to do the same multiplication to the numerator.

Denominator Multiples

Now we have a calculation where both the denominators are the same number.

x 2 = 10

x 2 = 6

$$\frac{5}{3} - \frac{7}{6} = \frac{10}{6} - \frac{7}{6} = \frac{3}{6} = \frac{1}{2}$$

To solve the calculation, the **denominator stays the same**, and the **numerators are subtracted**.

Denominator Multiples

Let's try this with another calculation where the fractions have **different denominators** which are multiples of the same number.

x 3 = 9

x 3 = 12

$$\frac{3}{4} - \frac{7}{12} = \frac{9}{12} - \frac{7}{12} = \frac{2}{12} = \frac{1}{6}$$

Denominator Multiples

Let's try this with another calculation where the fractions have **different denominators** which are multiples of the same number.

x 5 = 25

x 5 = 10

$$\frac{5}{2} - \frac{3}{10} = \frac{25}{10} - \frac{3}{10} = \frac{22}{10} = 2\frac{1}{5}$$
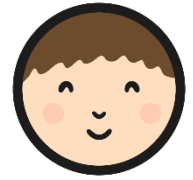
Colour by Fraction

ubtracting Fractions
Stained Glass Designs

I can subtract fractions with denominators that are multiples of the same number.

for your stained-glass design:

Less than $\frac{1}{2}$ Between $\frac{1}{2}$ and 1

Between 1 and $1\frac{1}{2}$ Greater than $1\frac{1}{2}$

Subtracting Fractions
Stained Glass Designs

btract fractions with denominators that are multiples of the same number.

nswers to these calculations are:

$\frac{1}{2}$ • between 1 and $1\frac{1}{2}$

and 1   • greater than $1\frac{1}{2}$

tion of the stained-glass design based on your answers.

Question	Answer	Size
$\frac{7}{8} - \frac{1}{2} =$		
$\frac{13}{8} - \frac{3}{4} =$		
$\frac{10}{6} - \frac{1}{2} =$		
$\frac{13}{4} - \frac{3}{2} =$		
$\frac{7}{10} - \frac{5}{20} =$		
$\frac{4}{3} - \frac{7}{15} =$		
$\frac{31}{20} - \frac{2}{5} =$		
$\frac{19}{9} - \frac{1}{3} =$		

Prove It

Is this calculation correct? Prove it!

$$2\frac{6}{10} - \frac{4}{5} = 1\frac{4}{5} \checkmark$$

$$\frac{26}{10} - \frac{8}{10} = \frac{18}{10} = 1\frac{8}{10} = 1\frac{4}{5}$$

Prove It

Is this calculation correct? Prove it!

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

$$\frac{17}{6} - \frac{4}{6} = \frac{13}{6} = 2\frac{1}{6}$$

Prove It

Is this calculation correct? Prove it!

$$2\frac{5}{9} - \frac{2}{3} = 1\frac{5}{9}$$ ✗

$$\frac{23}{9} - \frac{6}{9} = \frac{17}{9} = 1\frac{8}{9}$$

Prove It

Is this calculation correct? Prove it!

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

$$\frac{26}{8} - \frac{6}{8} = \frac{20}{8} = 2\frac{4}{8} = 2\frac{1}{2}$$

Aim

- I can subtract fractions with denominators that are multiples of the same number.

Success Criteria

- I can subtract fractions with the same denominator.

- I can convert between improper and mixed number fractions.

- I can use multiplication to change a fraction into an equivalent.

- I can subtract fractions with denominators that are multiples of the same number.