

# Основное свойство дроби

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Светлана

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МБОУ СОШ №9,

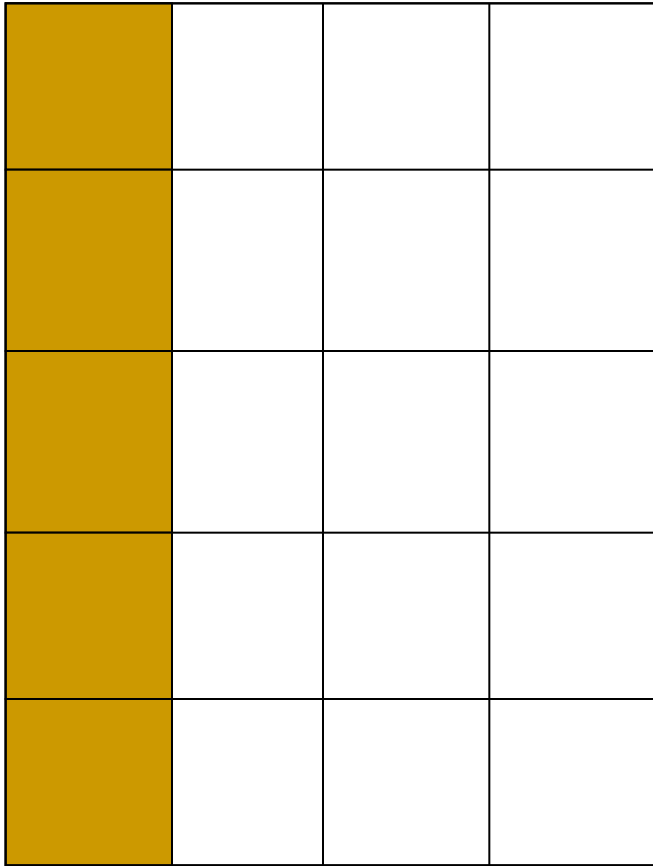
город Златоуст,

Челябинская область.

2012 год

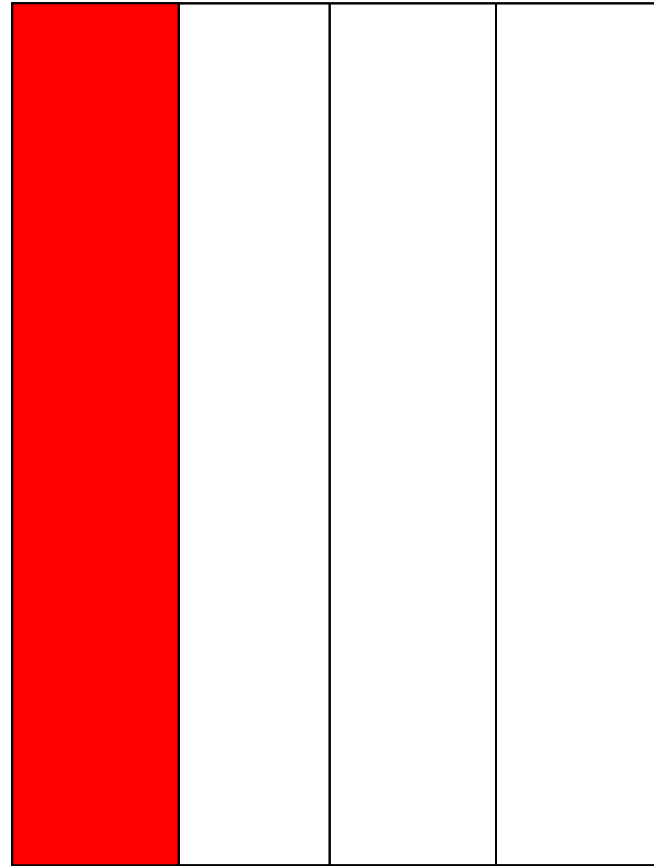
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- Основное свойство дроби
  - Сокращение дроби
  - Приведение дроби к нужному знаменателю
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# Основное свойство дроби



$$\frac{5}{20}$$

=



$$\frac{1}{4}$$

# Основное свойство дроби

$$\frac{5}{20} = \frac{1}{4}$$

Diagram illustrating the simplification of the fraction  $\frac{5}{20}$  to  $\frac{1}{4}$  by dividing both the numerator and the denominator by 5. A curved arrow above the fraction points from 20 to 4, and another curved arrow below points from 5 to 1. The number 5 is written above the top arrow and below the bottom arrow, indicating the divisor.

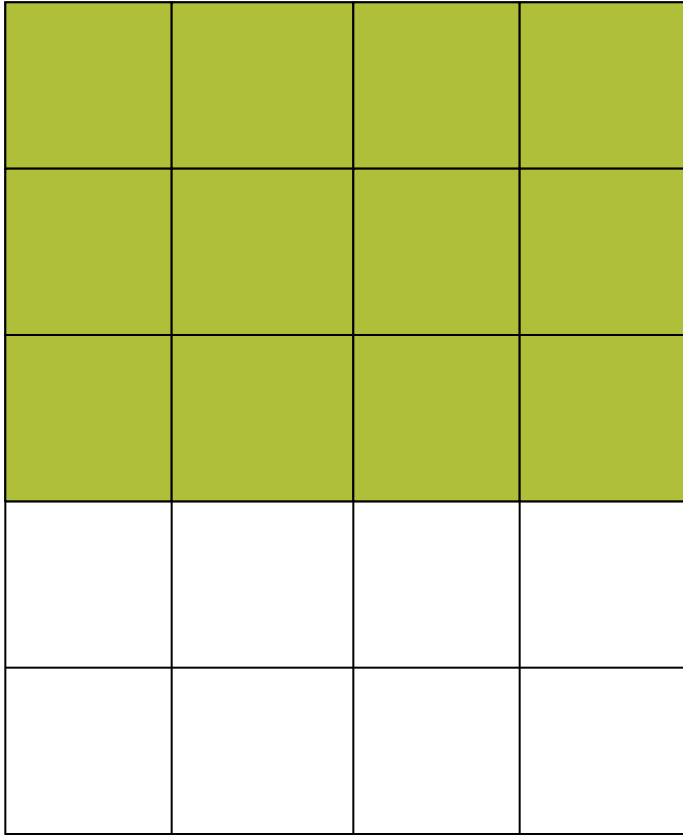
$$\frac{5}{20} = \frac{1}{4}$$

Diagram illustrating the expansion of the fraction  $\frac{1}{4}$  to  $\frac{5}{20}$  by multiplying both the numerator and the denominator by 5. A curved arrow above the fraction points from 1 to 5, and another curved arrow below points from 4 to 20. The number 5 is written above the top arrow and below the bottom arrow, indicating the multiplier.

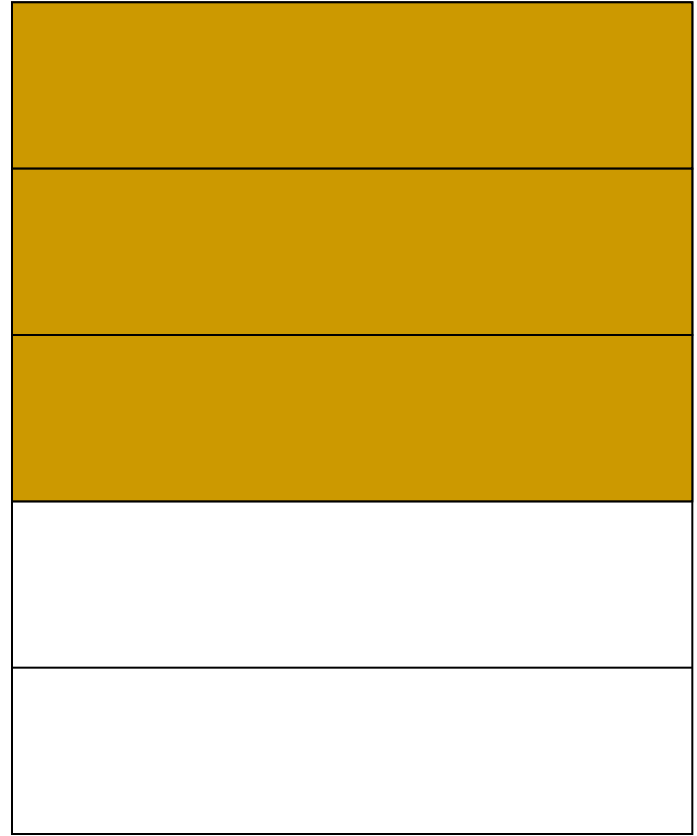
# Основное свойство дроби

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# Основное свойство дроби

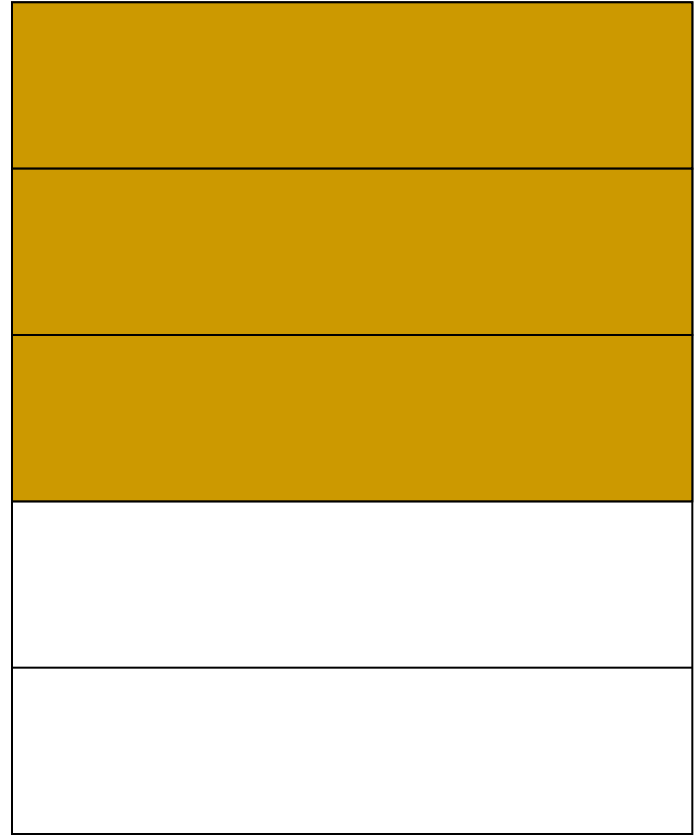
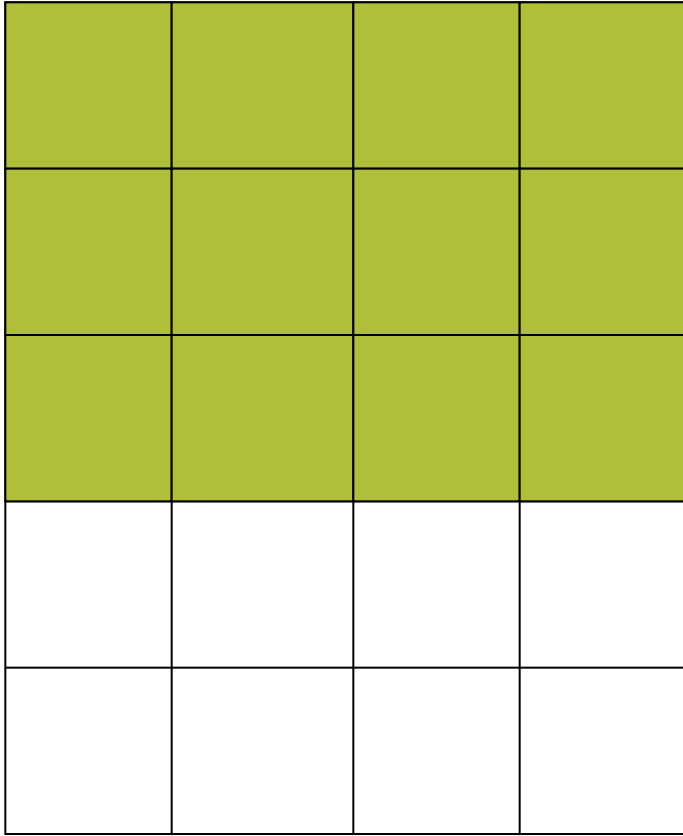


$$\frac{12}{20}$$



$$\frac{3}{5}$$

# Основное свойство дроби



$$\frac{12}{20}$$

=

$$\frac{3}{5}$$

# Основное свойство дроби

$$\frac{12}{20} = \frac{3}{5}$$

$\div 4$

$\div 4$

$$\frac{12}{20} = \frac{3}{5}$$

$\cdot 4$

$\cdot 4$



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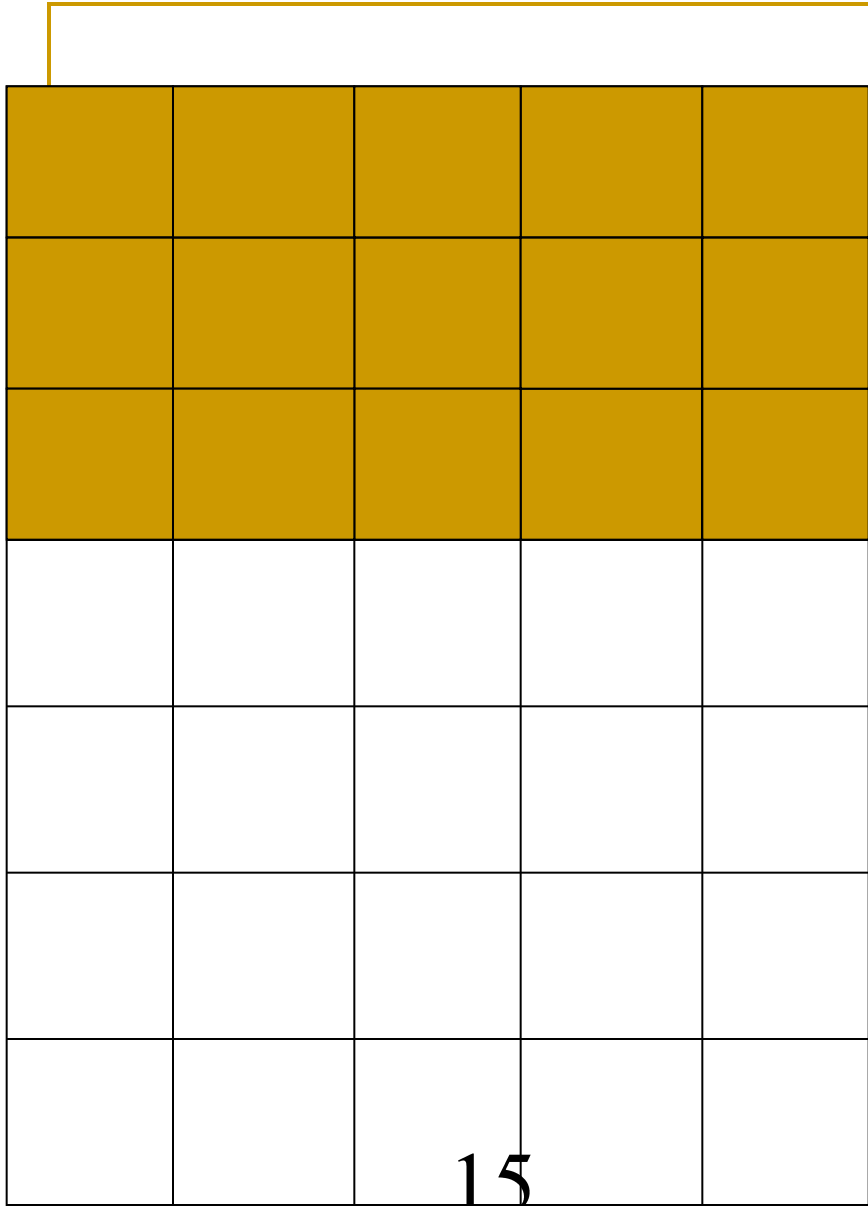


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15

35

=



3

7

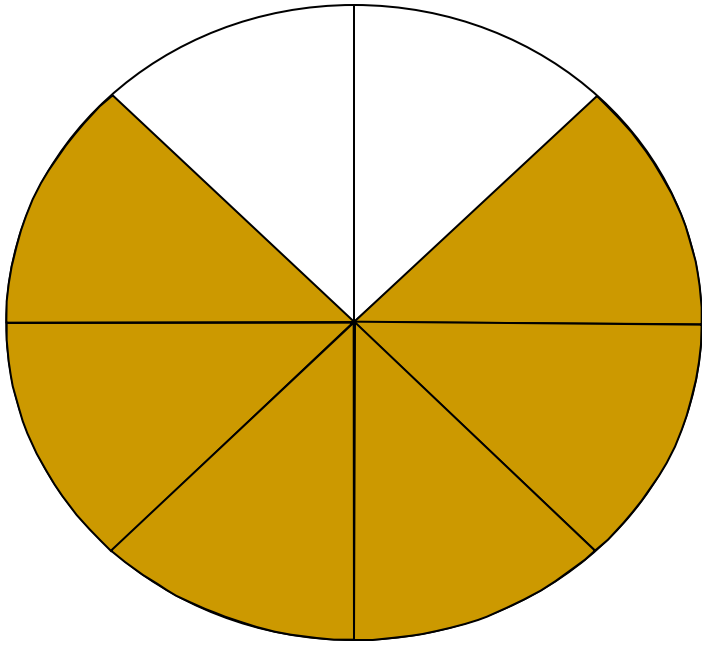
# Основное свойство дроби

$$\frac{15}{35} = \frac{3}{7}$$

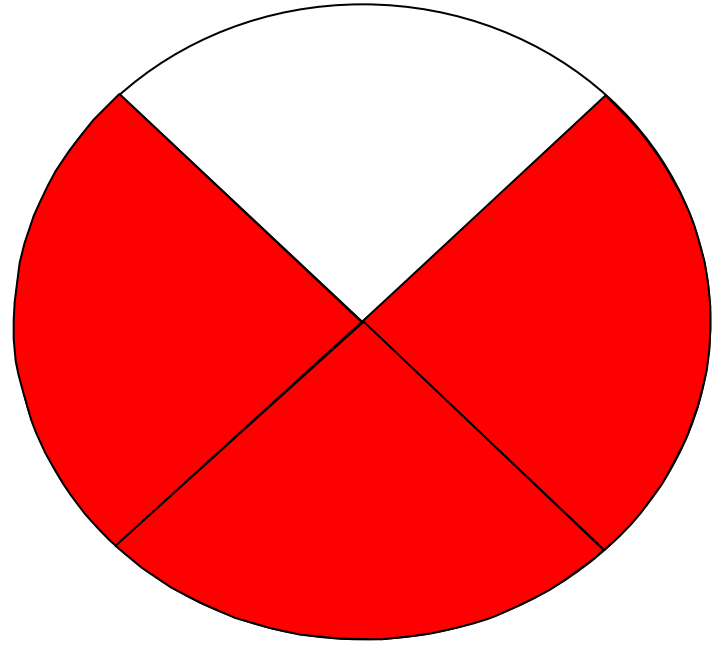
Diagram illustrating the simplification of the fraction  $\frac{15}{35}$  to  $\frac{3}{7}$  by dividing both the numerator and the denominator by 5. The operation is indicated by a division symbol  $\div 5$  above the fraction and another  $\div 5$  below it. Two curved arrows show the division of 15 by 5 to get 3 and 35 by 5 to get 7.

$$\frac{15}{35} = \frac{3}{7}$$

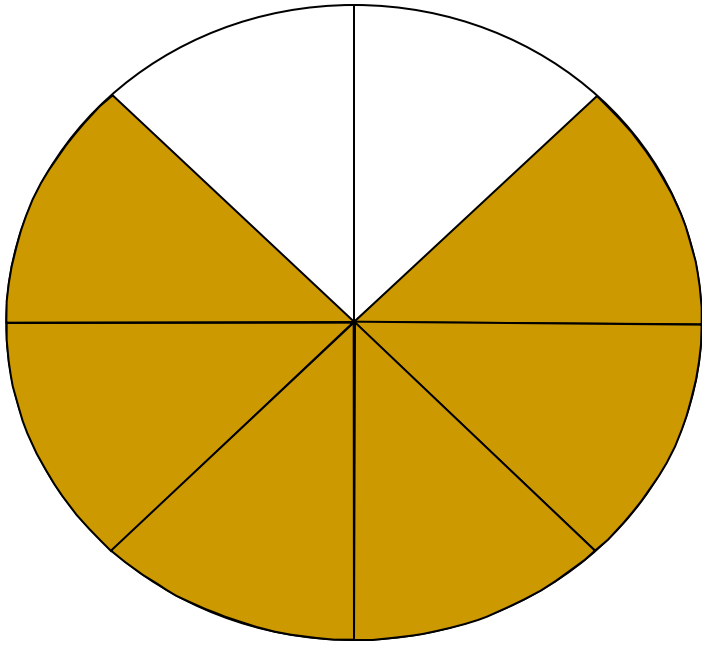
Diagram illustrating the expansion of the fraction  $\frac{3}{7}$  to  $\frac{15}{35}$  by multiplying both the numerator and the denominator by 5. The operation is indicated by a multiplication symbol  $\cdot 5$  above the fraction and another  $\cdot 5$  below it. Two curved arrows show the multiplication of 3 by 5 to get 15 and 7 by 5 to get 35.



$$\frac{6}{8}$$

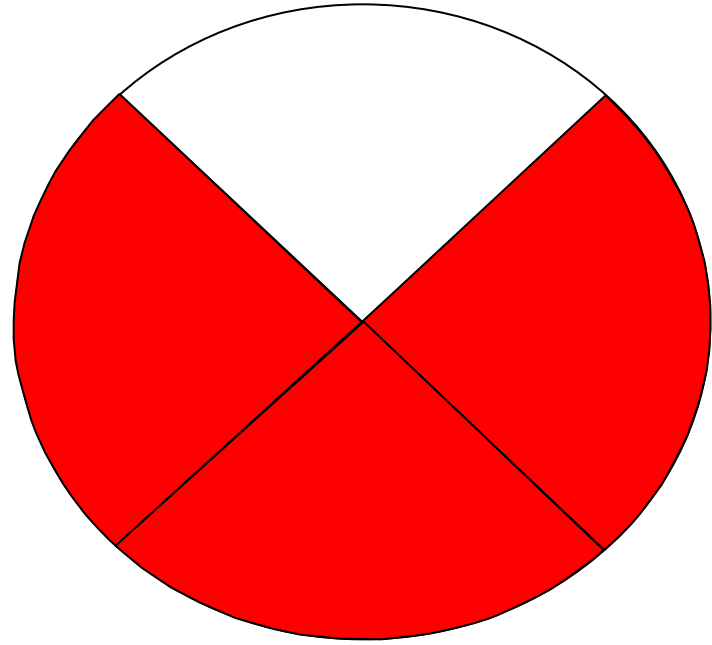


$$\frac{3}{4}$$



$$\frac{6}{8}$$

=



$$\frac{3}{4}$$

# Основное свойство дроби

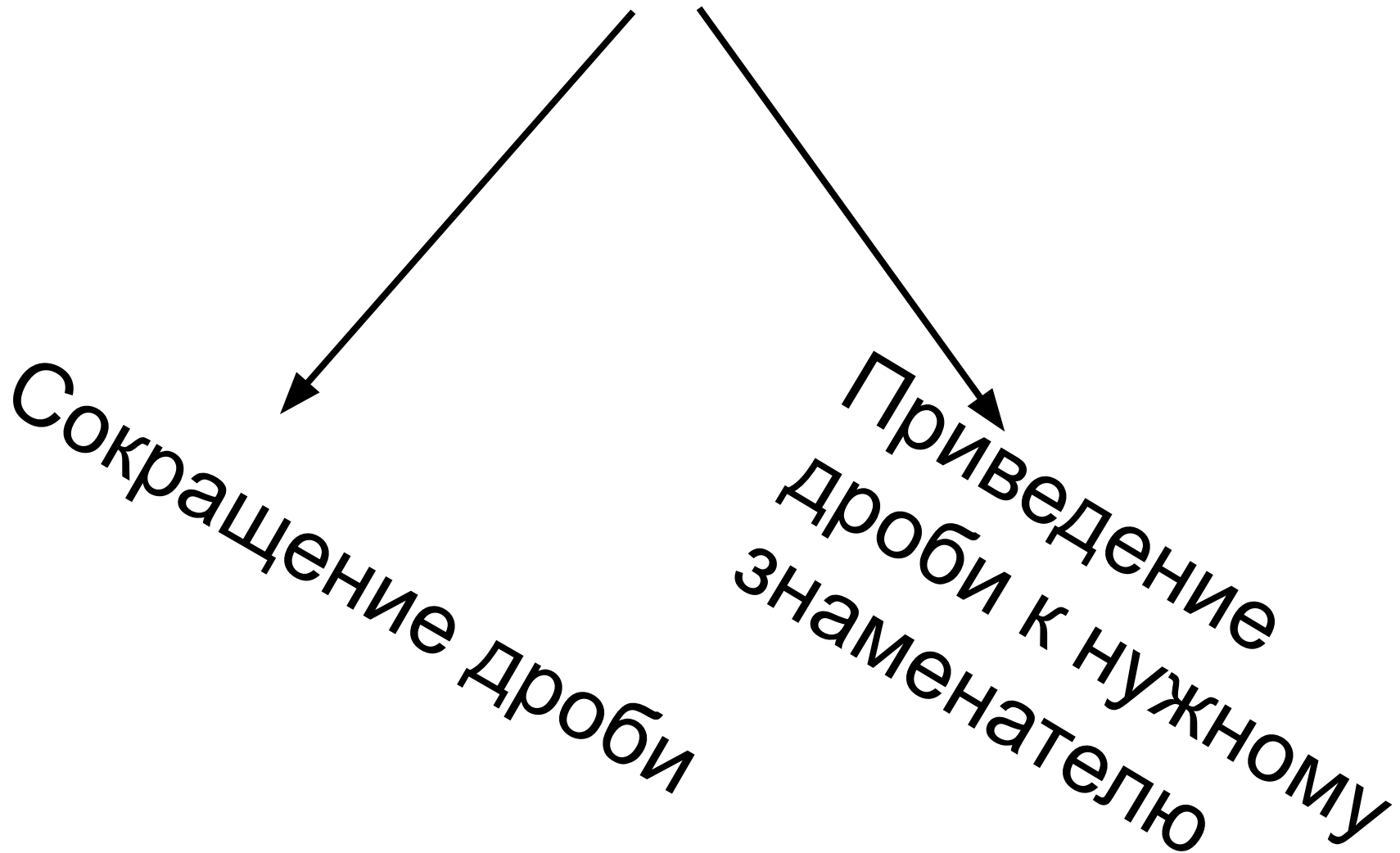
$$\frac{6}{8} = \frac{3}{4}$$

Diagram illustrating the simplification of the fraction  $\frac{6}{8}$  to  $\frac{3}{4}$  by dividing both the numerator and the denominator by 2. A curved arrow above the fraction points from 6 to 3, and another curved arrow below points from 8 to 4. The number 2 is written above the top arrow and below the bottom arrow, indicating the divisor.

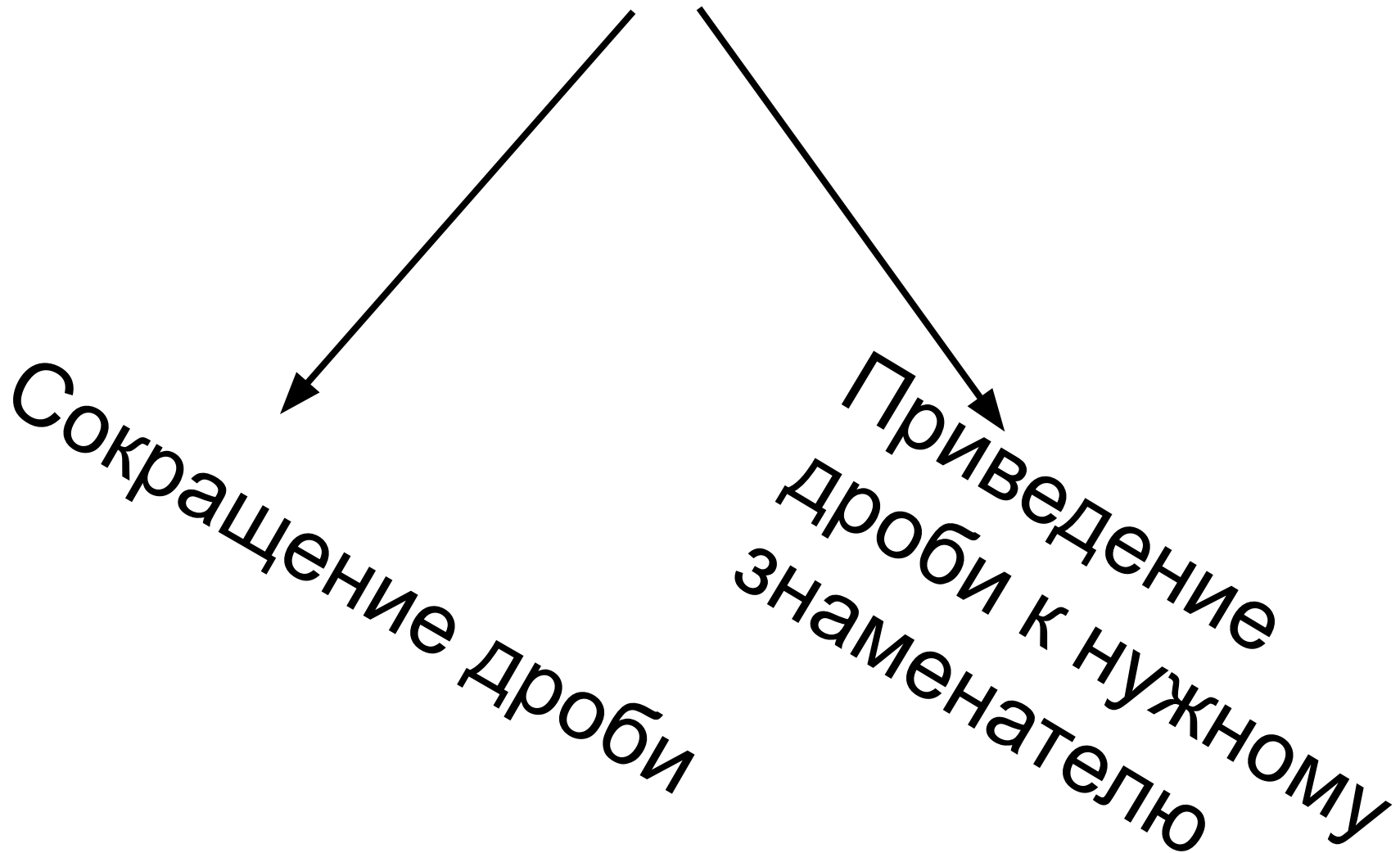
$$\frac{6}{8} = \frac{3}{4}$$

Diagram illustrating the expansion of the fraction  $\frac{3}{4}$  to  $\frac{6}{8}$  by multiplying both the numerator and the denominator by 2. A curved arrow above the fraction points from 3 to 6, and another curved arrow below points from 4 to 8. The number 2 is written above the top arrow and below the bottom arrow, indicating the multiplier.

# Основное свойство дроби



# Основное свойство дроби





# Сокращение дроби

$$\begin{array}{ccc} & :n & \\ \text{↘} & & \text{↙} \\ \frac{a}{b} & = & \frac{c}{k} \\ \text{↙} & & \text{↘} \\ & :n & \end{array}$$

Говорят, что дробь сократили на **n**

## Сокращение дроби

$$\frac{a}{b} = \frac{a : n}{b : n} = \frac{c}{k}$$

Если числитель и знаменатель дроби  
разделили на одно и то же , не

равное нулю число **n**, то говорят, что

дробь  $\frac{a}{b}$  сократили на **n**.

## Подробная запись

$$\frac{12}{30} = \frac{12:2}{30:2} = \frac{6}{15}$$

$$\frac{12}{30} = \frac{12:3}{30:3} = \frac{4}{10}$$

$$\frac{12}{30} = \frac{12:6}{30:6} = \frac{2}{5}$$

## Краткая запись

$$\frac{12}{30} = \frac{6}{15}$$

$$\frac{12}{30} = \frac{4}{10}$$

$$\frac{12}{30} = \frac{2}{5}$$

# Основное свойство дроби

Сокращение дроби

Приведение дроби к нужному знаменателю

# Приведение дроби к нужному знаменателю

$$\frac{a}{b} = \frac{a \cdot n}{b \cdot n} = \frac{c}{k}$$

Если числитель и знаменатель дроби умножили на одно и то же, не равное нулю число  $n$ , то говорят, что дробь  $\frac{a}{b}$  привели к знаменателю  $k$ .

Число  $n$  называется дополнительным множителем.

## Подробная запись

$$\frac{12^{(2)}}{30} = \frac{12 \cdot 2}{30 \cdot 2} = \frac{24}{60}$$

$$\frac{12^{(3)}}{30} = \frac{12 \cdot 3}{30 \cdot 3} = \frac{36}{90}$$

$$\frac{12^{(6)}}{30} = \frac{12 \cdot 6}{30 \cdot 6} = \frac{72}{180}$$

## Краткая запись

$$\frac{12^{(2)}}{30} = \frac{24}{60}$$

$$\frac{12^{(3)}}{30} = \frac{36}{90}$$

$$\frac{12^{(6)}}{30} = \frac{72}{180}$$

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Спасибо за внимание.

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