

# Математик

Муниципальное казенное общеобразовательное учреждение Сайдыпская основная общеобразовательная школа.

## Устный счет на уроках математики в 5 классе

Учитель математики  
МКОУ Сайдыпская ООШ  
Николаев Василий  
Николаевич

с. Сайдып 2012 год.

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

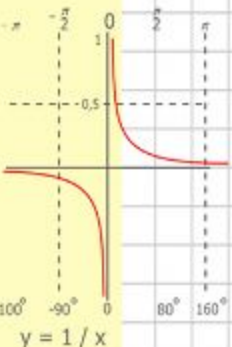
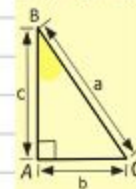
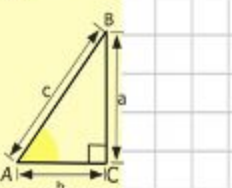
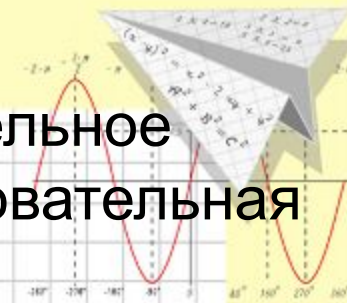
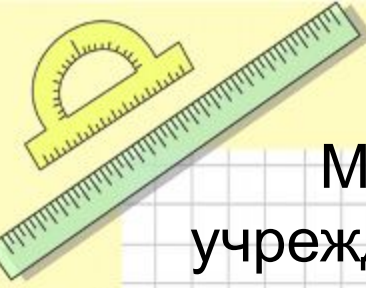
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

$$\sin 90^\circ = 1$$

$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

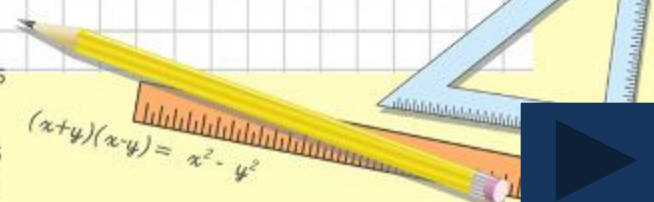
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ x = 70 \end{cases}$$

$$(x+y)(x-y) = x^2 - y^2$$



$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 2100 \\ + 8400 \\ \hline 105000 \end{array}$$

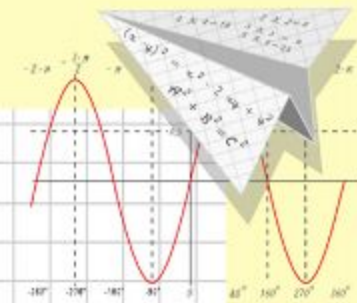
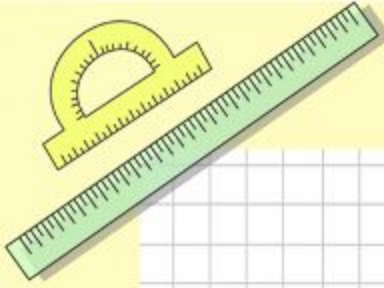
$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \end{array}$$



# Математик

## а Актуализация

Устный счет на уроках математики является способом направленного и всестороннего развития способностей детей. Систематическое выполнение устных упражнений позволяет восстанавливать, поддерживать и умножать природные способности к восприятию, запоминанию и обработке информации, способствует поддержанию и укреплению всей умственной работоспособности, организованности, целеустремленности. Я использую возможности устного счета для развития математических способностей учащихся пятого класса.



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

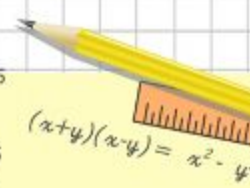
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$



$$\sin 90^\circ = 1$$



$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \\ y = 1 \\ x = 25 + 45 \\ x = 70 \end{cases}$$

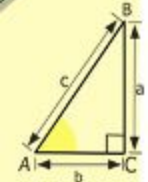


$$(x+y)(x-y) = x^2 - y^2$$



# Оглавление

- Чтение натуральных чисел.
- Действие с натуральными числами
- Шкалы и координаты
- Сравнение натуральных чисел
- Решение уравнений
- Умножение натуральных чисел
- Деление натуральных чисел
- Порядок выполнения действий
- Площадь прямоугольника
- Объем прямоугольного параллелепипеда
- Доли. Обыкновенные дроби
- Сравнение дробей
- Умножение и деление десятичных дробей на натуральные числа
- Умножение десятичных дробей
- Деление десятичных дробей
- Проценты



$$\begin{array}{r} \frac{1}{2} 500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 105000 \end{array}$$



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$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

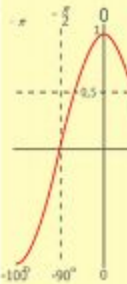
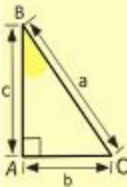
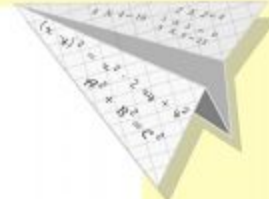
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$$(x+y)(x-y) = x^2 - y^2$$



$$y = \cos$$

$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \\ 9 \times 9 = 81 \end{array}$$



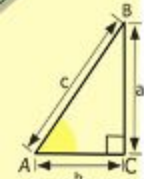
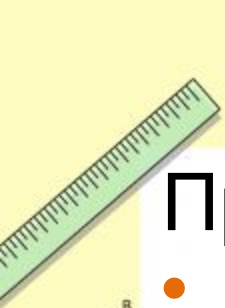
# Чтение натуральных чисел

Прочитайте числа:

- 123 12
- 43 211
- 334 563 456
- 75 342 345
- 10 012
- 10 101 010
- 225 500 002
- 10 000 001

Запишите в тетради числами:

- Сто восемьдесят один.
- Восемь миллионов сорок пять.
- Триста восемь тысяч восемьдесят девять.
- Сорок миллионов девятьсот двадцать одна тысяча один.



$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 10500 \end{array}$$



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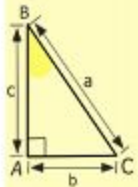
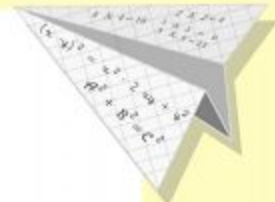
$$\sin 90^\circ = 1$$



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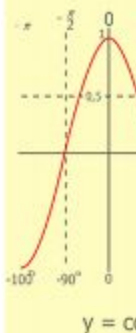
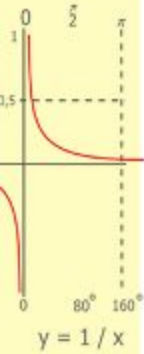
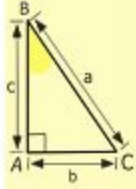
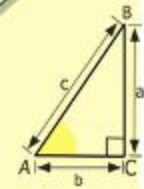
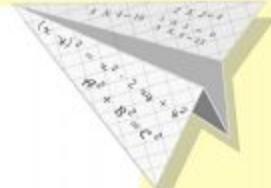
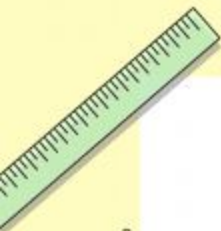


- 2 x 2 = 4
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# Действия с натуральными

## числами



$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 2100 \\ + 8400 \\ \hline 105000 \end{array}$$

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$$(x+y)(x-y) = x^2 - y^2$$



# Шкалы и координаты

*Выразите в сантиметрах:*

$$2 \text{ м } 50 \text{ см} = 250 \text{ см}; \quad 2 \text{ м } 5 \text{ см} = 205 \text{ см};$$

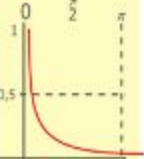
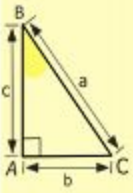
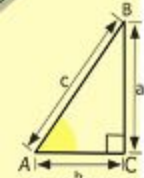
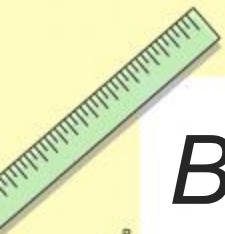
$$4 \text{ дм } 8 \text{ см} = 48 \text{ см}; \quad 460 \text{ мм} = 46 \text{ см};$$

*Выразите в*

*метрах:*

$$1 \text{ км } 600 \text{ м} = 1600 \text{ м}; \quad 4 \text{ км } 30 \text{ м} = 4030 \text{ м};$$

$$7 \text{ км } 5 \text{ м} = 7005 \text{ м}; \quad 3850 \text{ дм} = 385 \text{ м};$$



$$y = 1/x$$

$$y = \cos$$

$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 2100 \\ + 840 \\ \hline 10500 \end{array}$$

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# Шкалы и координаты

Какие числа соответствуют точкам на координатной шкале?

20

60

23

28

31

37

40

46

A

B

C

D

E

F

$$\begin{array}{r} 210 \\ + 84 \\ \hline 105000 \end{array}$$

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# Сравнение натуральных чисел

$$54 < 55$$

$$12\ 544 > 12\ 534$$

$$20\ 011\ 125 < 20\ 100\ 052$$

$$2\ 374 > 2\ 365$$

$$65\ 934 > 62\ 156$$

Назовите все числа, которые лежат между данными числами:

102

103

104

105

59958

59959

59960

59961





# Решение уравнений

$$x^2 - 03 = 542$$

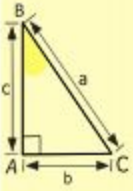
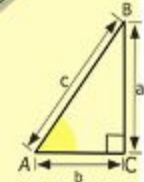
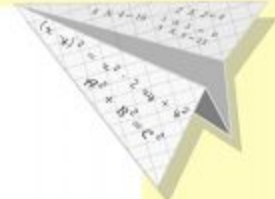
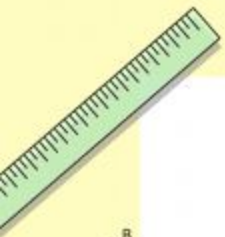
$$x = 24 \div 023$$

$$x = 95$$

$$x^2 - 13 = 3139$$

$$x = 939 \div 53110$$

$$x = 22$$



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# Умножение натуральных чисел

Заполните таблицу:

Множитель		6	11	23		33	6
Множитель	8			4	2	3	
Произведение	96	54	55		18		138



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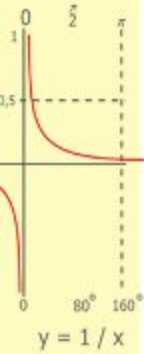
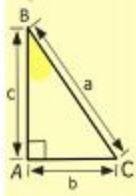
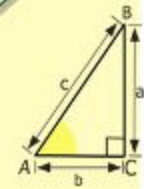
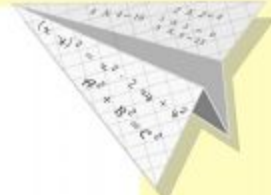
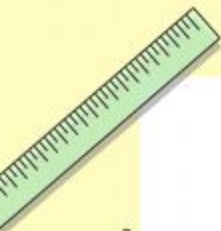
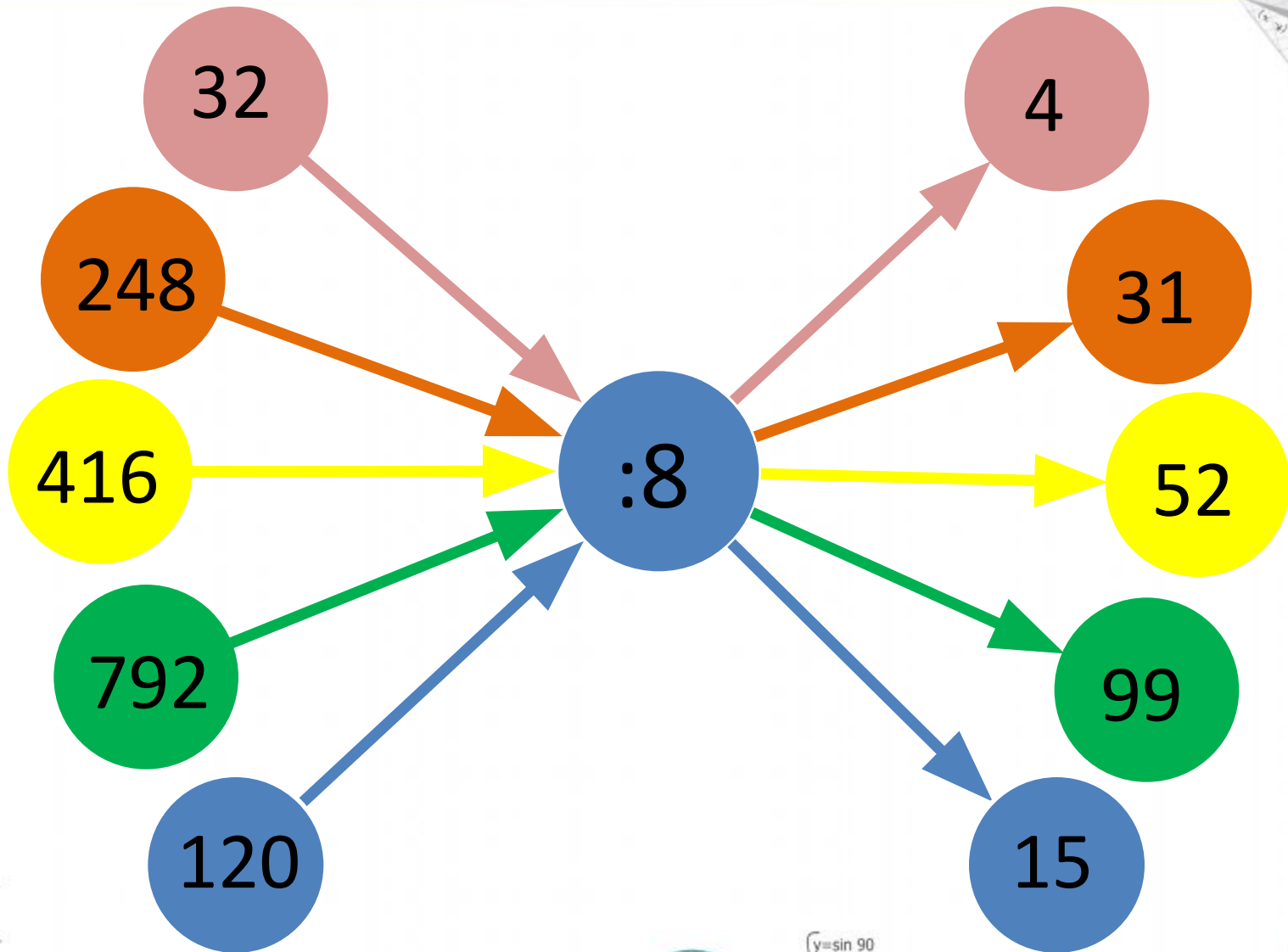
$$x = 70$$

$$(x+y)(x-y) = x^2 - y^2$$

$$\begin{aligned} 2 \times 2 &= 4 \\ 3 \times 3 &= 9 \\ 4 \times 4 &= 16 \\ 5 \times 5 &= 25 \\ 6 \times 6 &= 36 \\ 7 \times 7 &= 49 \\ 8 \times 8 &= 64 \\ 9 \times 9 &= 81 \end{aligned}$$



# Деление натуральных чисел



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$$(x+y)(x-y) = x^2 - y^2$$



# Порядок выполнения действий

$$5 * 3 + 8 = 23$$

$$12 * 3 - 2 * 9 = 18$$

$$56 - (20 + 19) = 17$$

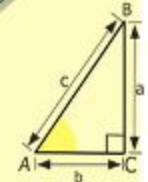
$$35 * 2 : 7 = 10$$

$$18 - 32 : 2 = 2$$

$$12 : 4 + 23 * 4 = 95$$

$$(64 - 39) + (48 + 13) = 86$$

$$8 * (17 - 15) = 16$$



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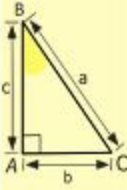
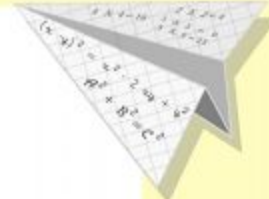


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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$$(x+y)(x-y) = x^2 - y^2$$



$$y = \cos$$

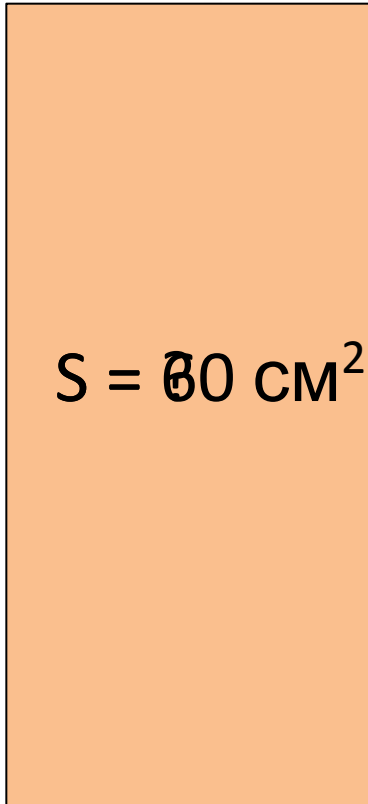
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# Площадь прямоугольника

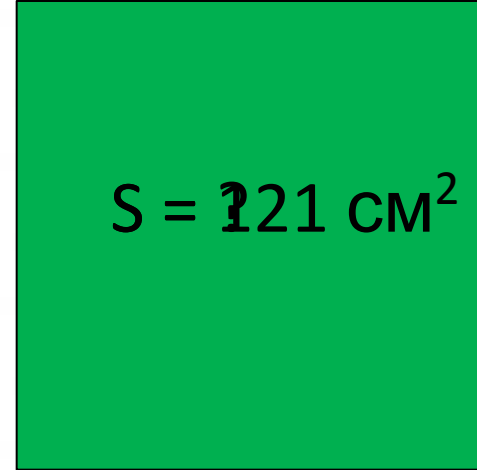
Вычислите площадь:

4 см

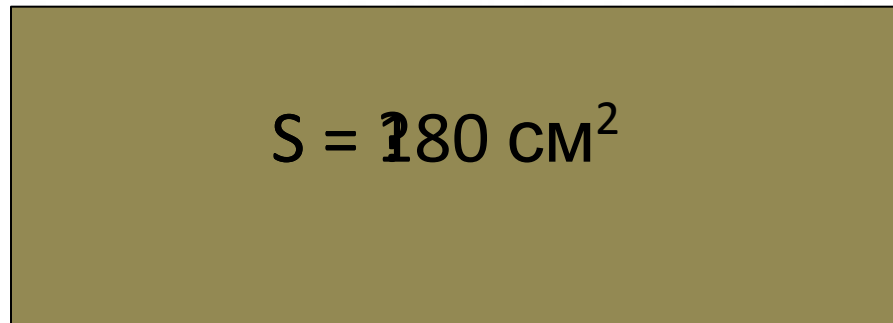


15 см

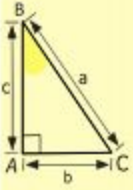
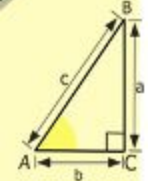
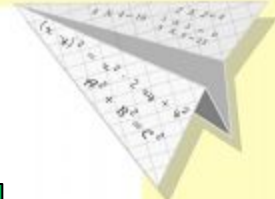
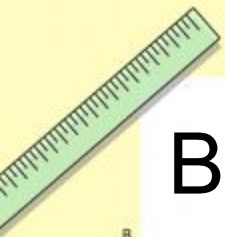
11 см



2 дм



9 см



$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 2100 \\ + 8400 \\ \hline 105000 \end{array}$$

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- 3 x 3 = 9
- 4 x 4 = 16
- 5 x 5 = 25
- 6 x 6 = 36
- 7 x 7 = 49
- 8 x 8 = 64
- 9 x 9 = 81



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

$$\sin 90^\circ = 1$$



$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

$$\begin{cases} y = 1 \\ x = 25 + 45 \end{cases}$$

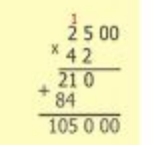
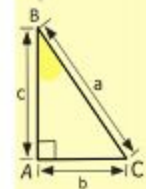
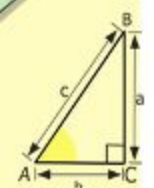
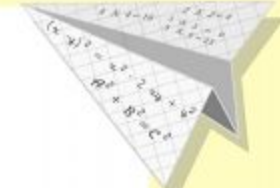
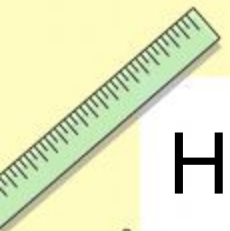
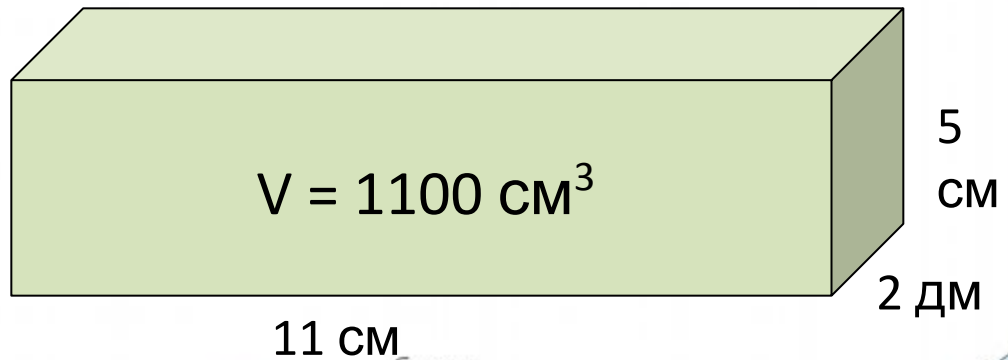
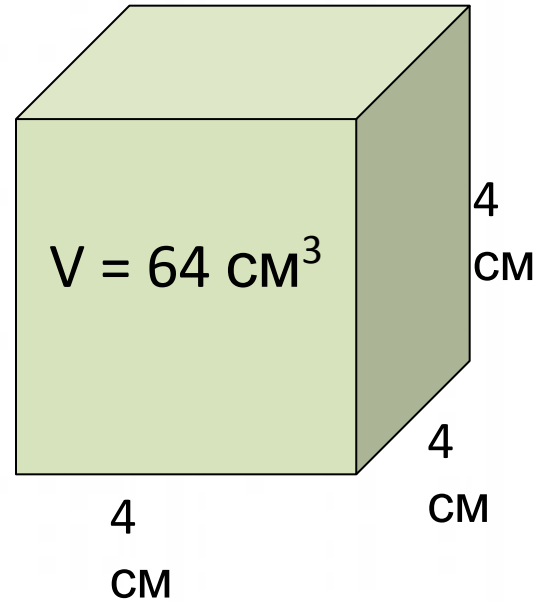
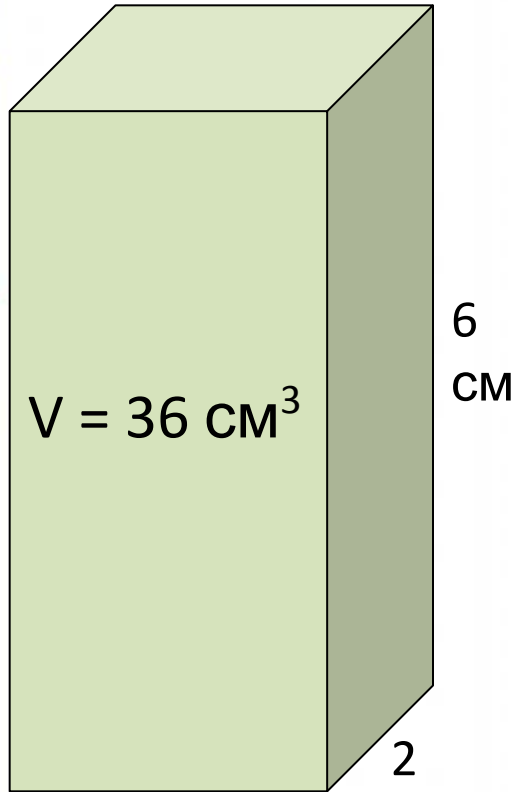
$$x = 70$$

$$(x+y)(x-y) = x^2 - y^2$$



# Объем прямоугольного параллелепипеда

Найдите объем фигур:



- $2 \times 2 = 4$
- $3 \times 3 = 9$
- $4 \times 4 = 16$
- $5 \times 5 = 25$
- $6 \times 6 = 36$
- $7 \times 7 = 49$
- $8 \times 8 = 64$
- $9 \times 9 = 81$



Trigonometric identities:  
$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

$\sin 90^\circ = 1$



Algebraic equations:  
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ x = 70 \end{cases}$$
$$(x+y)(x-y) = x^2 - y^2$$

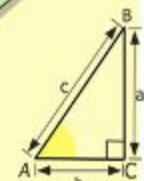
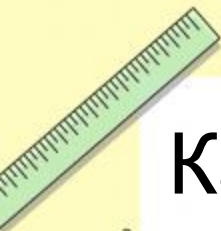
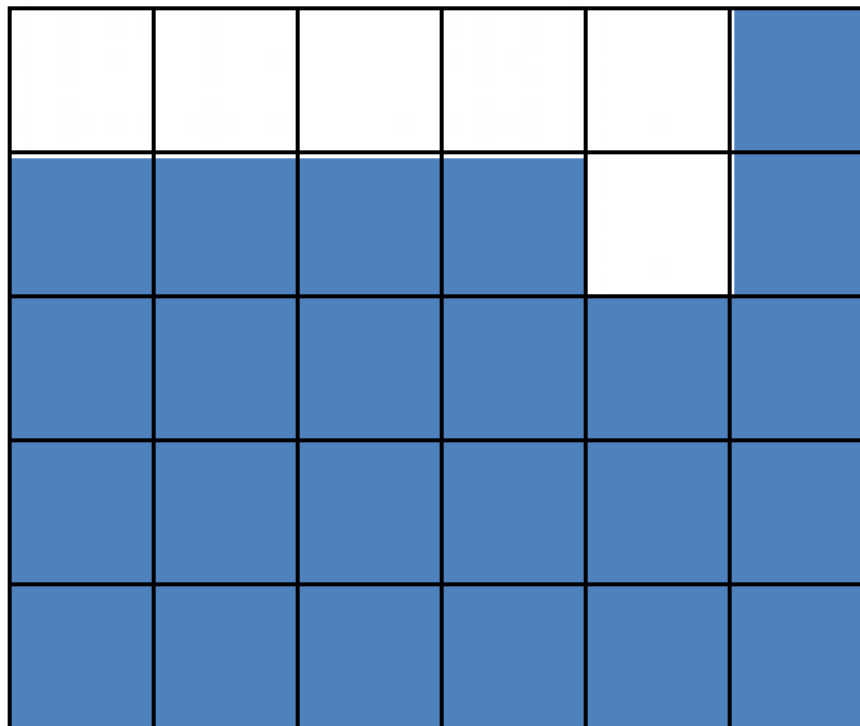


# Доли. Обыкновенные дроби

Какая часть фигуры закрашена?

$$\frac{18}{30} \quad \frac{16}{30}$$

$$\frac{5}{30} \quad \frac{6}{30}$$



$$\begin{array}{r} \frac{1}{2} 500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 105000 \end{array}$$



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

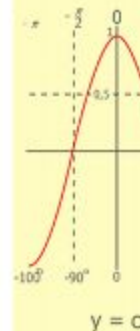
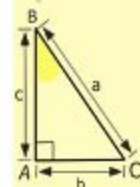
$$\sin 90^\circ = 1$$



$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

$$(x+y)(x-y) = x^2 - y^2$$



$$y = \cos$$

- 2 x 2 = 4
- 3 x 3 = 9
- 4 x 4 = 16
- 5 x 5 = 25
- 6 x 6 = 36
- 7 x 7 = 49
- 8 x 8 = 64
- 9 x 9 = 81



# Сравнение дробей

Сравните дроби:

$$\frac{15}{12} > \frac{12}{12}$$

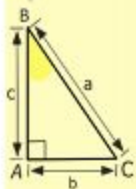
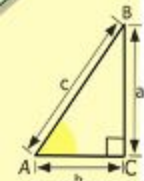
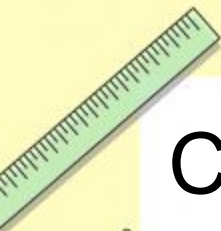
$$\frac{31}{60} > \frac{29}{60}$$

$$\frac{16}{16} = 1$$

$$\frac{5}{8} < \frac{7}{8}$$

$$1 < \frac{4}{3}$$

$$\frac{12}{12} = \frac{21}{21}$$



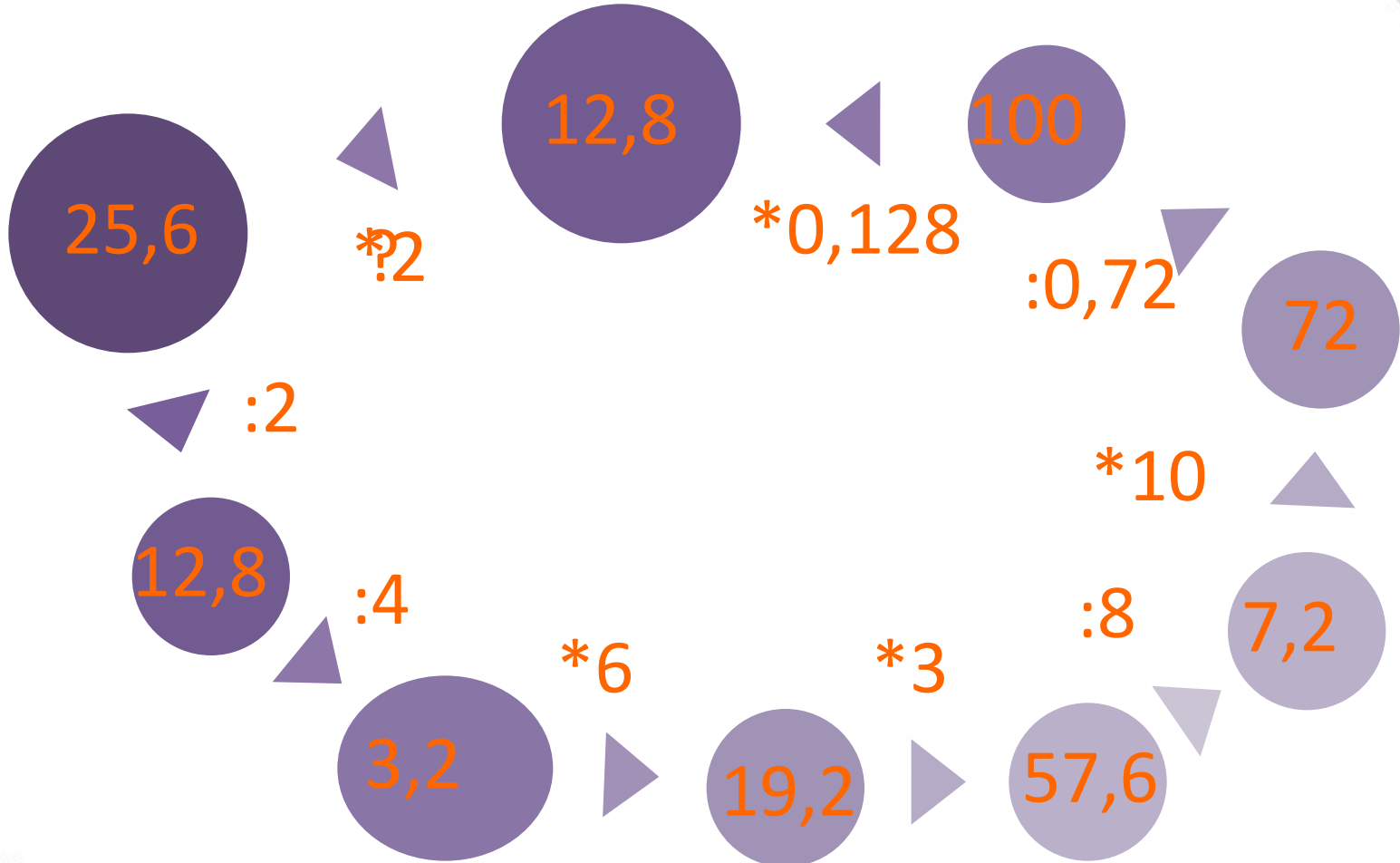
$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 105000 \end{array}$$

- 2 x 2 = 4
- 3 x 3 = 9
- 4 x 4 = 16
- 5 x 5 = 25
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- 8 x 8 = 64
- 9 x 9 = 81





# Умножение и деление десятичных дробей на натуральные числа



$\frac{1}{2} \ 5 \ 00$   
 $\times 42$   
 $\hline$   
 $+ 210$   
 $+ 84$   
 $\hline$   
 $105 \ 0 \ 00$

$y = \cos x$

- $2 \times 2 = 4$
- $3 \times 3 = 9$
- $4 \times 4 = 16$
- $5 \times 5 = 25$
- $6 \times 6 = 36$
- $7 \times 7 = 49$
- $8 \times 8 = 64$
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$$\frac{a}{A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

$$\sin 90^\circ = 1$$



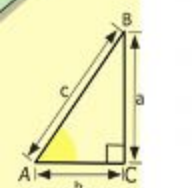
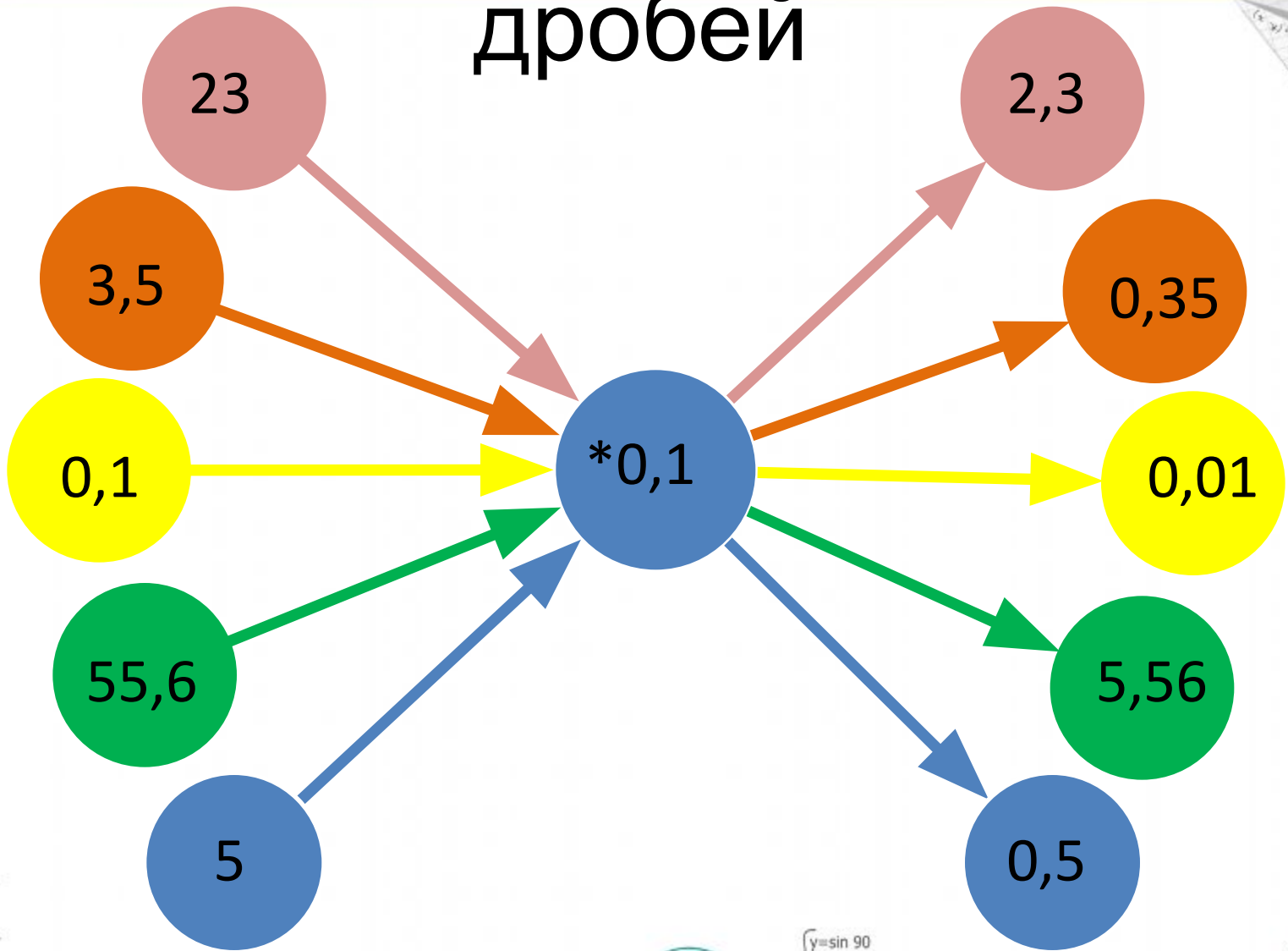
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

$$\begin{cases} y = 1 \\ x = 25 + 45 \\ x = 70 \end{cases}$$

$$(x+y)(x-y) = x^2 - y^2$$



# Умножение десятичных дробей



$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 2100 \\ + 8400 \\ \hline 105000 \end{array}$$



$$\frac{a}{A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

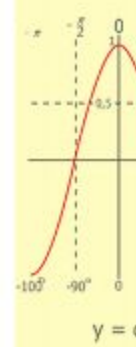
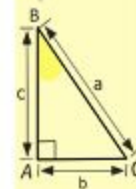
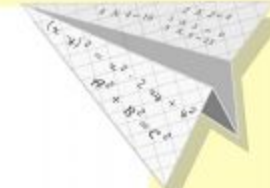
$$\sin 90^\circ = 1$$



$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

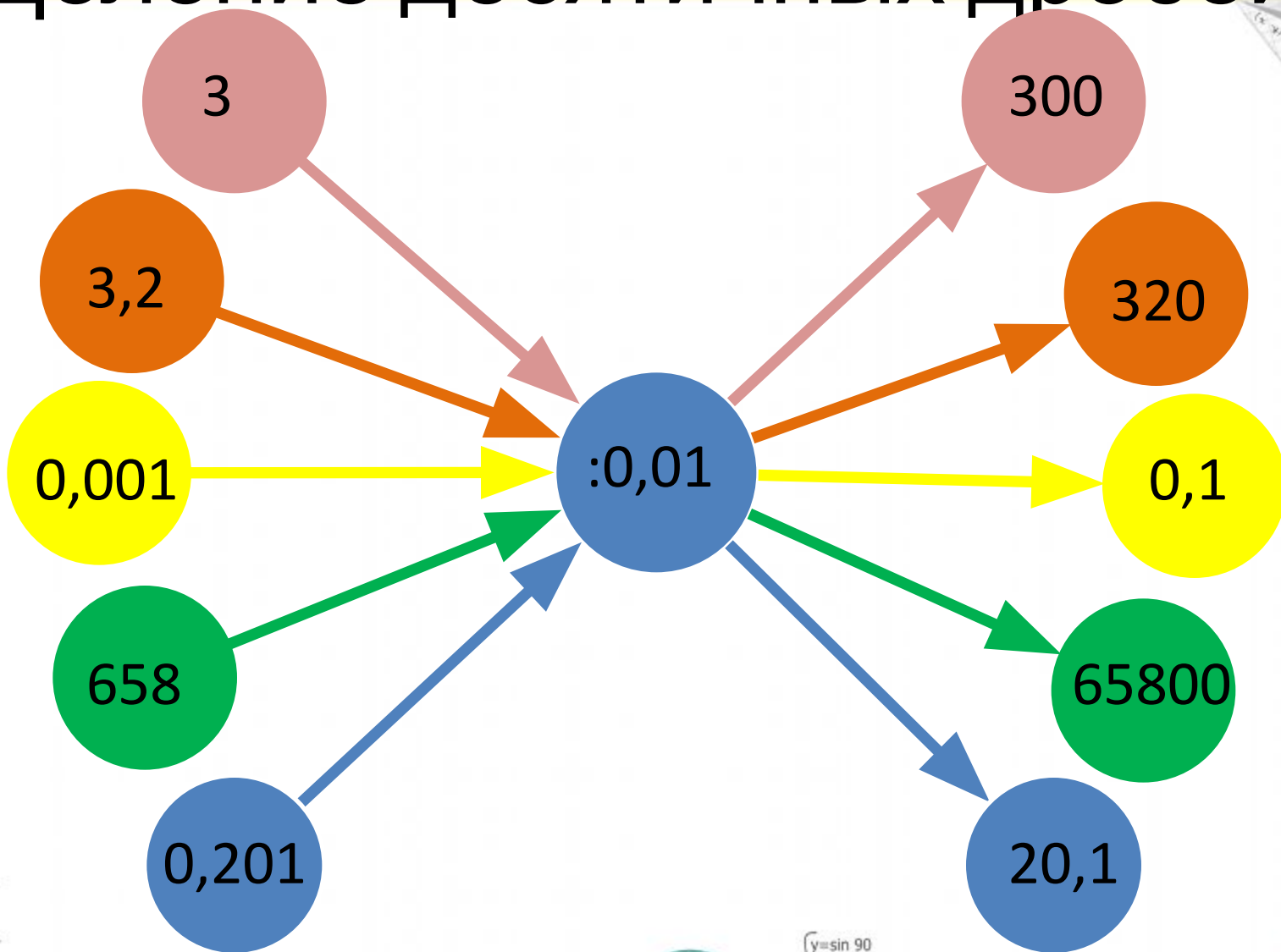
$$(x+y)(x-y) = x^2 - y^2$$



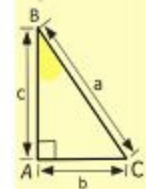
$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \\ 9 \times 9 = 81 \end{array}$$



# Деление десятичных дробей



A vertical strip of mathematical graphics on the left side of the page. From top to bottom: a green ruler; a right-angled triangle with vertices A, B, C and sides a, b, c; a graph of the function  $y = 1/x$  with x-axis from 0 to  $\pi$  and y-axis from 0 to 1; a multiplication table showing  $\begin{matrix} 2500 \\ \times 42 \\ \hline 2100 \\ + 8400 \\ \hline 105000 \end{matrix}$ ; and a sine wave graph with x-axis from 0 to  $2\pi$  and y-axis from -1 to 1.



2	2	=	4
3	3	=	9
4	4	=	16
5	5	=	25
6	6	=	36
7	7	=	49
8	8	=	64
9	9	=	81

$$\frac{a}{A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

$$\sin 90^\circ = 1$$



$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ x = 70 \end{cases}$$

$$(x+y)(x-y) = x^2 - y^2$$



# Проценты

Найдите неизвестное

A 40 см B

100%

A 24 B

60%

A 10 B

?%

A ?32 B

80%

A 28 B

?%

$$\frac{a}{A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

$$\sin 90^\circ = 1$$

$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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