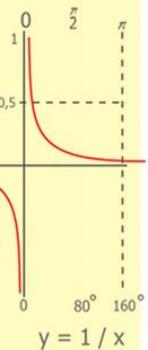
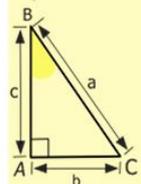
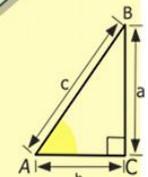
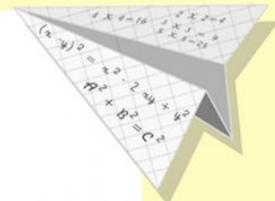
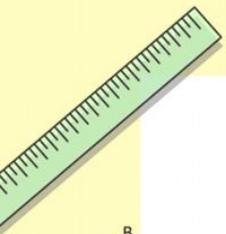
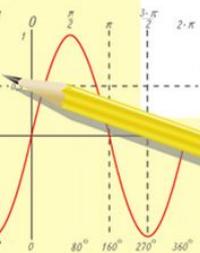


Сложение рациональных чисел с помощью координатной прямой



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

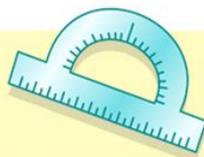
- $2 \times 2 = 4$
- $3 \times 3 = 9$
- $4 \times 4 = 16$
- $5 \times 5 = 25$
- $6 \times 6 = 36$
- $7 \times 7 = 49$
- $8 \times 8 = 64$
- $9 \times 9 = 81$



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

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

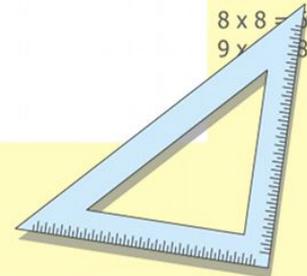
$$\sin 90^\circ = 1$$



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

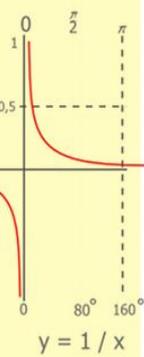
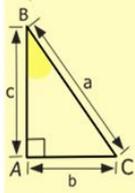
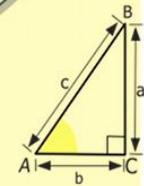
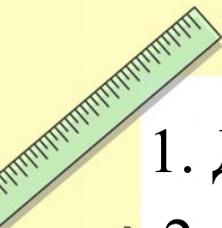
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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



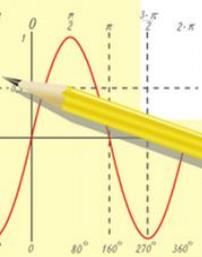
Утверждения

1. Для каждого числа есть два противоположных ему числа.
2. Любое положительное число больше нуля.
3. Модуль числа -2 равен 2.
4. Модуль числа может быть отрицательным.
5. Противоположные числа отличаются только знаком.
6. Любое отрицательное число больше нуля.
7. Если к любому числу прибавить нуль, то число не изменится.
8. Нуль меньше любого положительного числа.
9. Точка, лежащая правее, имеет большую координату.
10. Точка с меньшей координатой лежит правее точки с больше координатой.



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

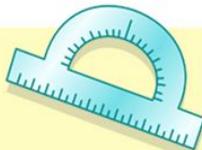
- 2 x 2 = 4
- 3 x 3 = 9
- 4 x 4 = 16
- 5 x 5 = 25
- 6 x 6 = 36
- 7 x 7 = 49
- 8 x 8 = 64
- 9 x 9 = 81



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

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

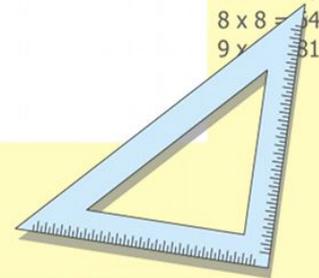
$$\sin 90^\circ = 1$$



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

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

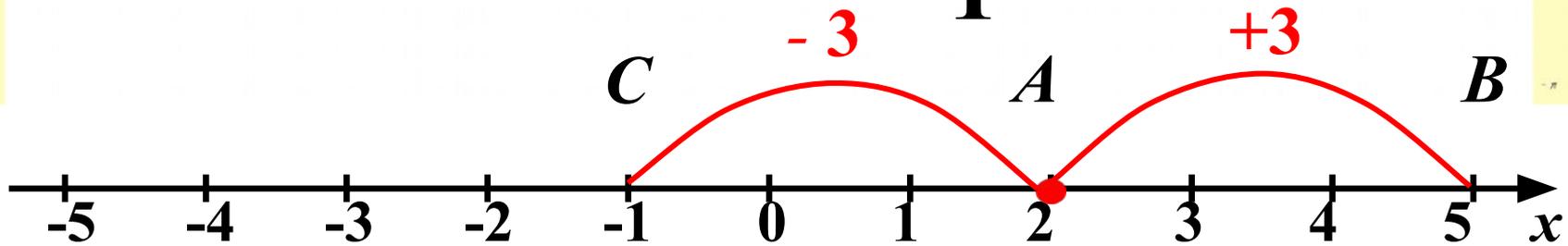
$$(x+y)(x-y) = x^2 - y^2$$



Сложение чисел на координатной прямой.

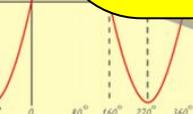
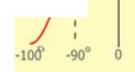
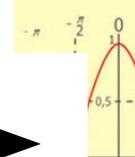
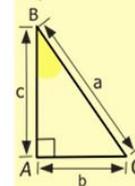
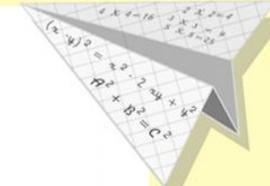
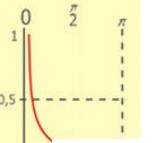
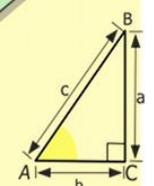
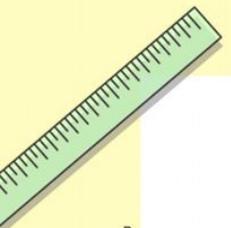
$$2 + 3 = 5$$

$$2 + (-3) = -1$$



Правильно!

**Любое число от прибавления
положительного числа
увеличивается, а от
прибавления отрицательного
числа уменьшается.**



$$\sin A = \sin B = \sin C$$

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

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

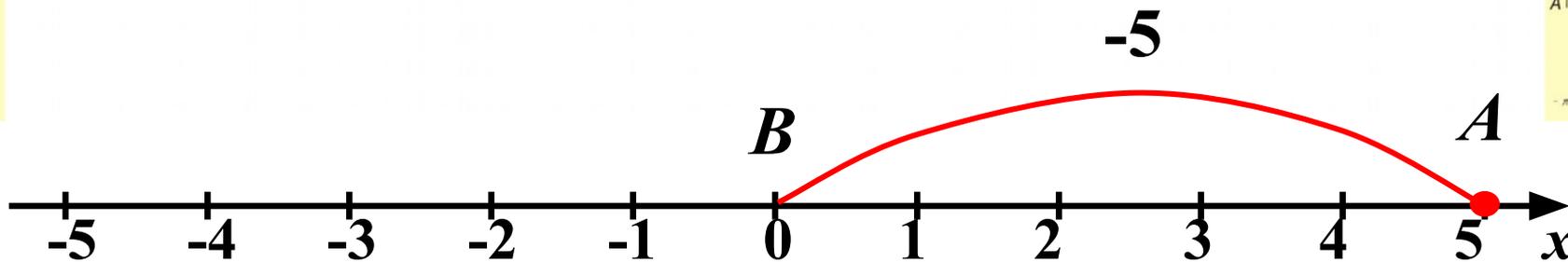


$$\begin{aligned} y &= 1 \\ x &= 25 + 45 \\ \hline x &= 70 \end{aligned}$$

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

Сложение чисел на координатной прямой.

$$5 + (-5) = 0$$



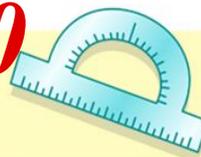
Сумма двух противоположных чисел равна нулю.

$$a + (-a) = 0$$

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

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

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



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

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

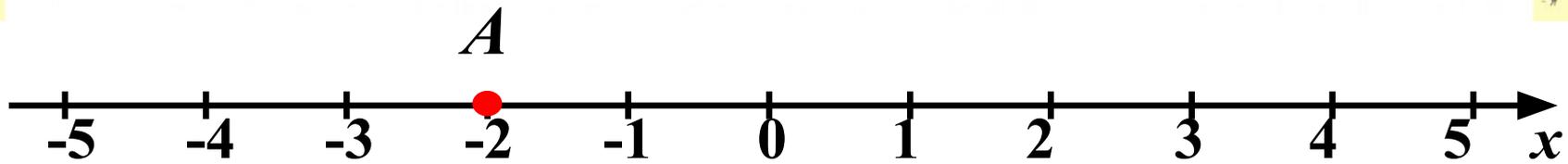
$$x = 70$$

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



Сложение чисел на координатной прямой.

$$(-2) + 0 = \boxed{-2}$$



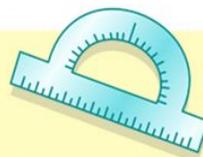
**От прибавления нуля число
не изменяется.**

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

$$a + 0 = a$$

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

$$\sin 90^\circ$$



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

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

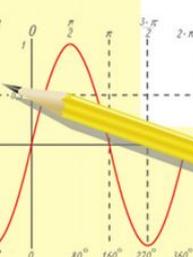
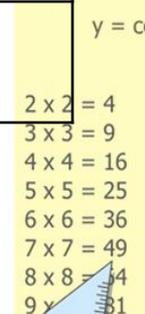
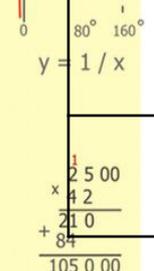
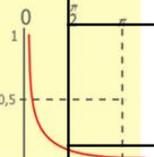
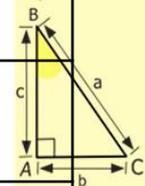
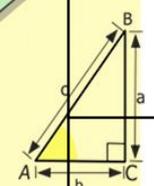
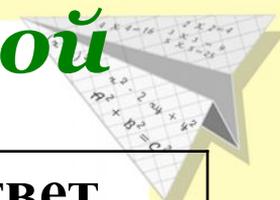
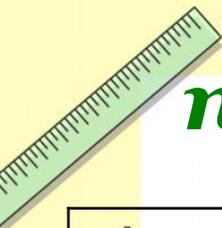
$$x = 70$$

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



Выполните сложение чисел с помощью координатной прямой

Пример	Ответ	Пример	Ответ
$-2+6$		$-2+(-5)$	
$-7+4$		$-4+(-2)$	
$6+(-3)$		$-4+(-4)$	
$-4+4$		$-6+0$	
$3+(-3)$		$0+(-4)$	



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

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

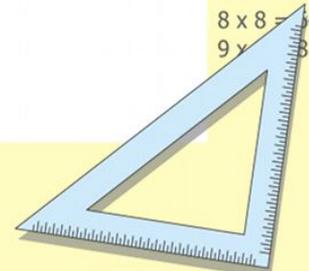
$$\sin 90^\circ = 1$$



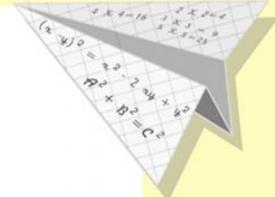
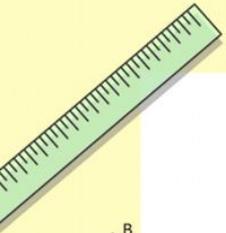
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

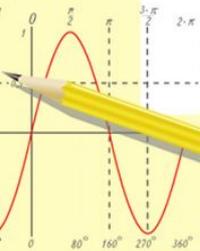
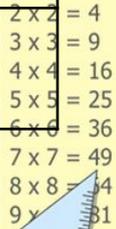
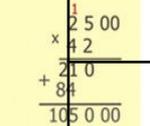
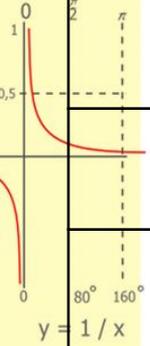
$$(x+y)(x-y) = x^2 - y^2$$



Проверяем!



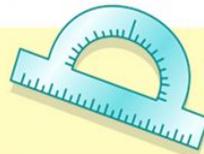
Пример	Ответ	Пример	Ответ
$-2+6$	4	$-2+(-5)$	-7
$-7+4$	-3	$-4+(-2)$	-6
$6+(-3)$	3	$-4+(-4)$	-8
$-4+4$	0	$-6+0$	-6
$3+(-3)$	0	$0+(-4)$	-4



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

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

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

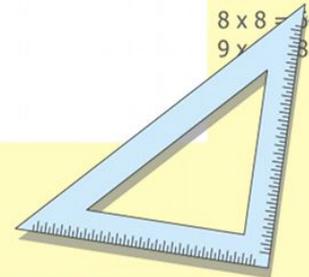


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

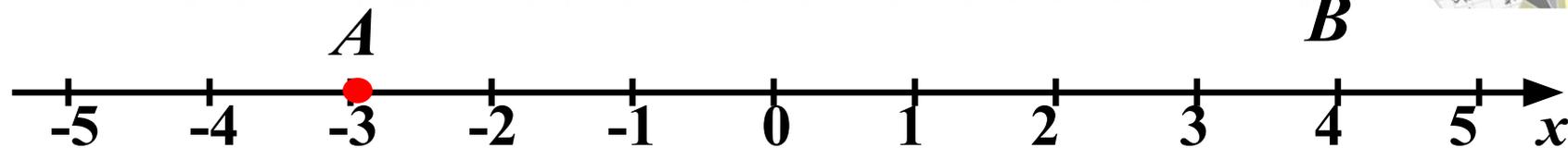
$$\begin{cases} y = 1 \\ x = 25 + 45 \end{cases}$$

$$x = 70$$

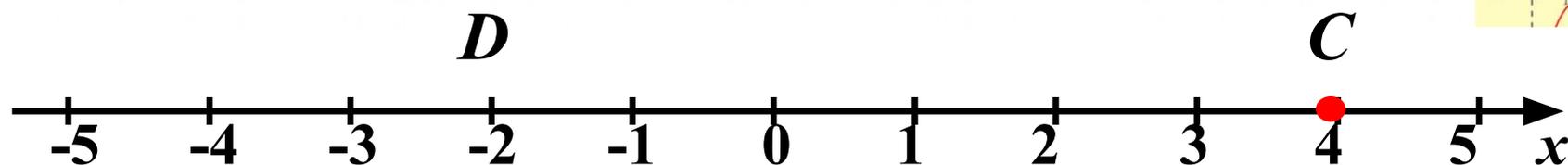
$$(x+y)(x-y) = x^2 - y^2$$



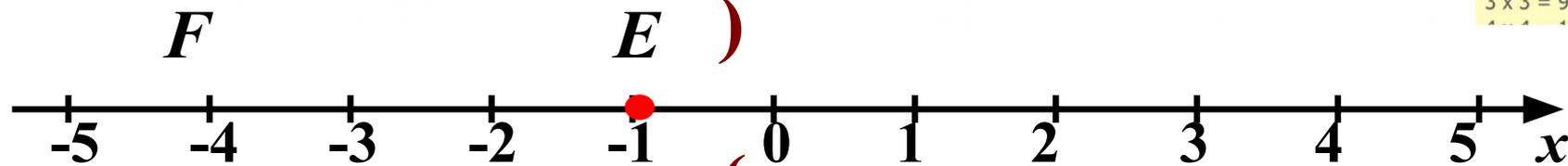
Заполните пропуски:



$$-3 + 7 = 4$$



$$4 + (-6) = -2$$



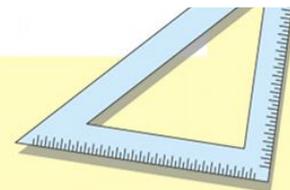
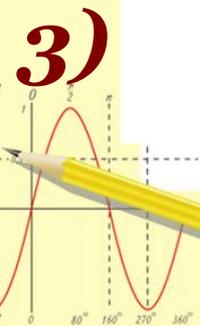
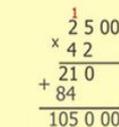
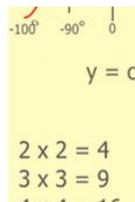
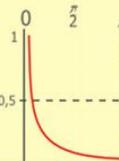
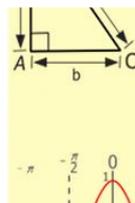
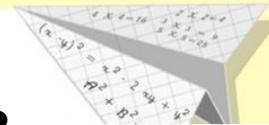
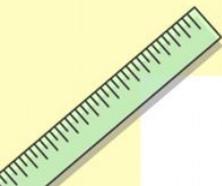
$$(-1) + (-3) = -4$$

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

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

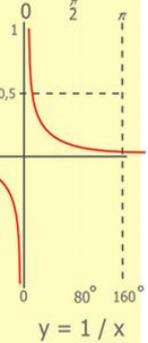
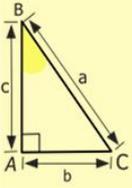
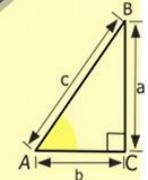
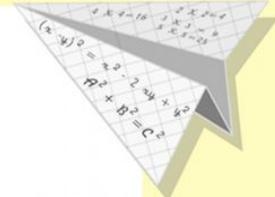
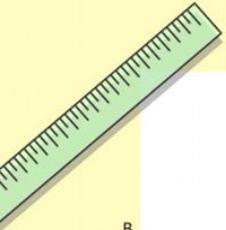
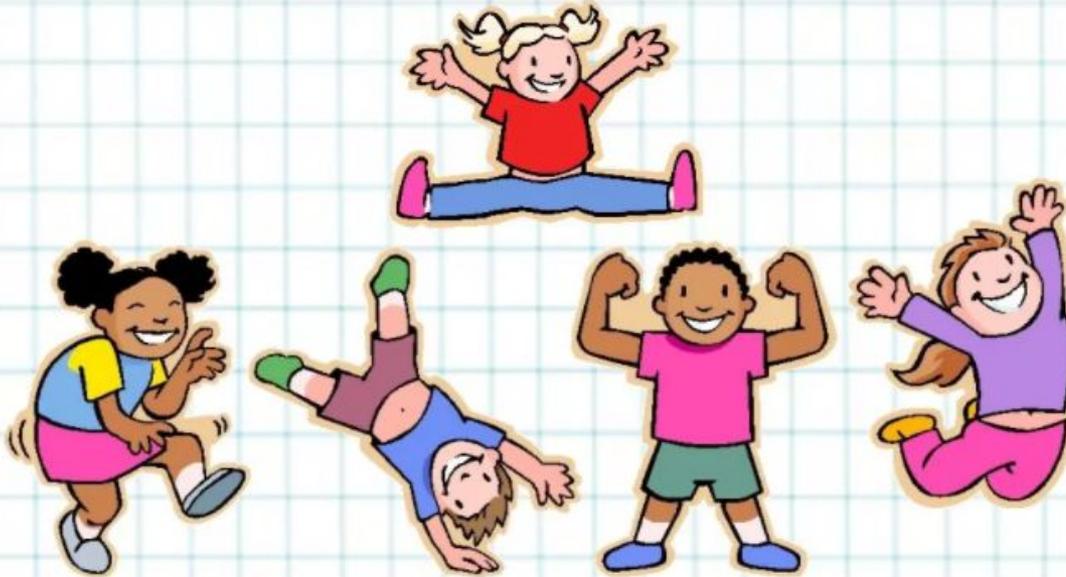
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \\ y = - \\ x = 25 + 45 \\ x = 70 \end{cases}$$

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



5. Физкультминутка

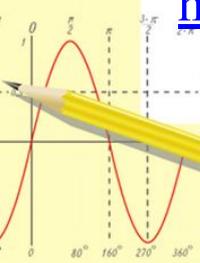
Физкультминутка .



$$\begin{array}{r} 1 \\ 2500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 10500 \end{array}$$

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

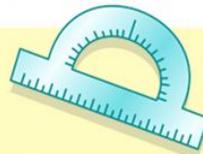
https://yandex.ru/efir?stream_id=4308a88ef2990b538219abc3f7d733e6&f=1



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

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

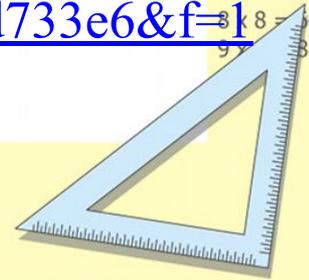
$$\sin 90^\circ = 1$$



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

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

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



Задание

Запишите с помощью сложения:

Точка $A(3)$ переместилась на 5 единиц влево.

$$3 + (-5) = -2$$

Точка $B(-1)$ переместилась на 2 единицы вправо.

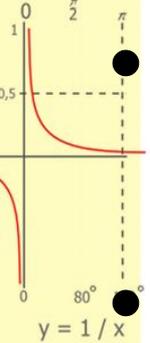
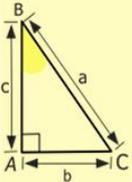
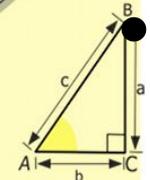
$$-1 + 2 = 1$$

Точка $C(-3)$ переместилась на 3 единицы вправо.

$$(-3) + 3 = 0$$

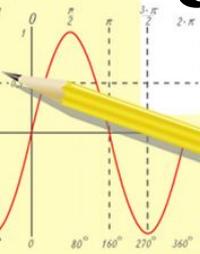
Точка $D(-7)$ переместилась на 4 единицы влево.

$$(-7) + (-4) = -11$$



$$\begin{array}{r} 1 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 10500 \end{array}$$

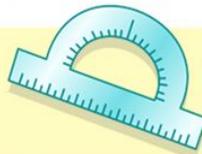
$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \\ 9 \times 9 = 81 \end{array}$$



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

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

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

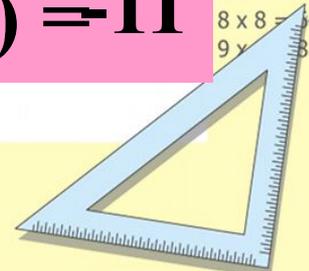


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

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

$$x = 70$$



С помощью координатной прямой сложите числа:

Вариант I

1) 4 и -6;

2) -3 и -1;

3) -5 и 5;

4) -3 и 0;

5) -2 и 3.

Вариант II

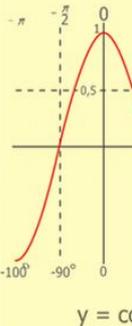
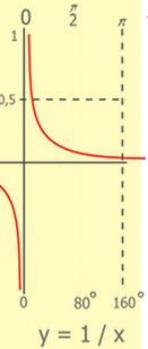
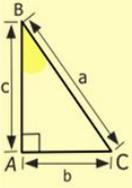
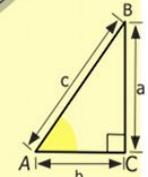
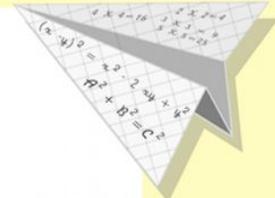
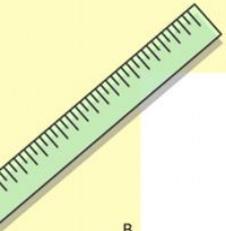
1) -3 и -2;

2) 4 и -1;

3) -3 и 2;

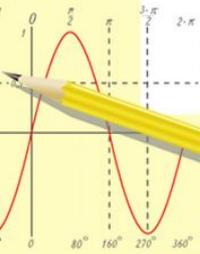
4) -6 и 6;

5) -5 и 0.



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

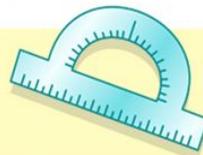
$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \\ 9 \times 9 = 81 \end{array}$$



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

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

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

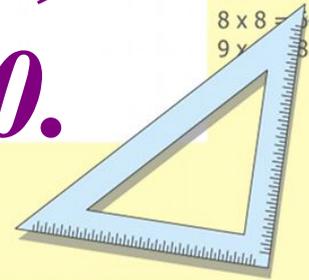


$$\begin{cases} y = \sin 90^\circ \\ x = 25y + 45 \end{cases}$$

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

$$x = 70$$

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



Проверка решения

Вариант I

$$1) 4 + (-6) = -2;$$

$$2) -3 + (-1) = -4;$$

$$3) -5 + 5 = 0;$$

$$4) -3 + 0 = -3;$$

$$5) -2 + 3 = 1.$$

Вариант II

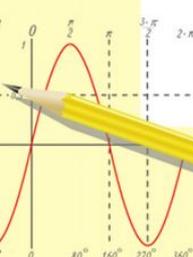
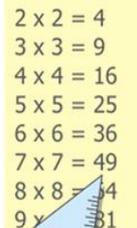
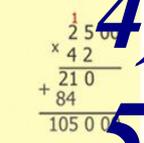
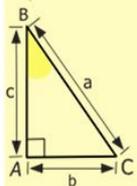
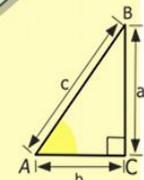
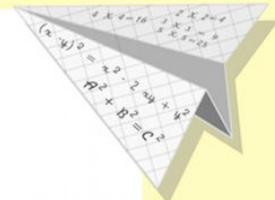
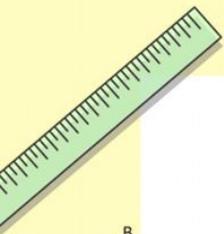
$$1) -3 + (-2) = -5;$$

$$2) 4 + (-1) = 3;$$

$$3) -3 + 2 = -1;$$

$$4) -6 + 6 = 0;$$

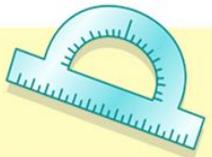
$$5) -5 + 0 = -5$$



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

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

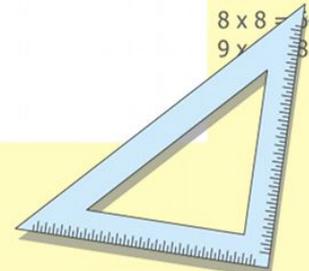
$$\sin 90^\circ = 1$$



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

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

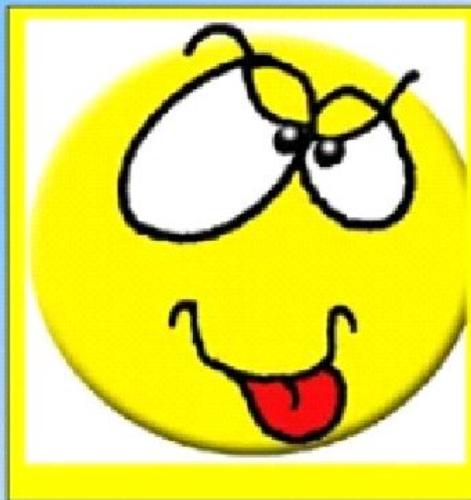
$$(x+y)(x-y) = x^2 - y^2$$



Рефлексия



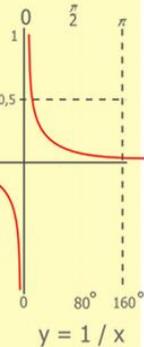
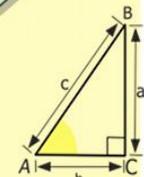
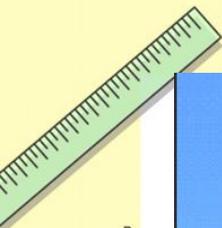
Я удовлетворён уроком, урок был полезен для меня, я хорошо работал и получил отличную оценку.



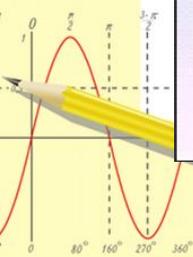
Урок был интересен, я принимал в нём активное участие, мне было на уроке комфортно.



Полезы от урока я получил мало, я мало понимал о чём шла речь. Мне было неинтересно.



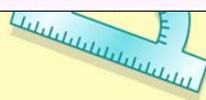
$$\begin{array}{r} 1 \\ \times 2500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 10500 \end{array}$$



$$\sin A \sin B \sin C$$

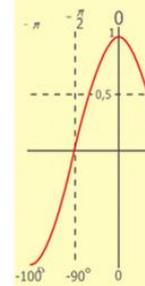
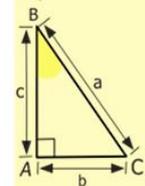
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

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



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

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



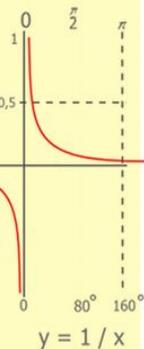
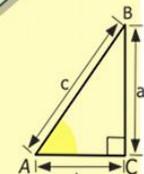
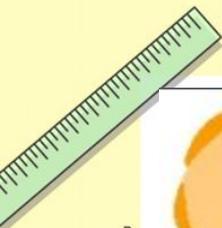
$$y = \cos$$

- 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

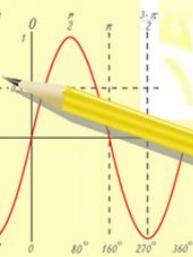


Молодцы!

Спасибо за урок...



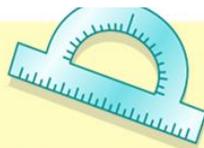
$$\begin{array}{r} 1 \\ \times 2500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 105000 \end{array}$$



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

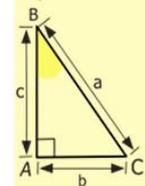
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

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



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

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



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

