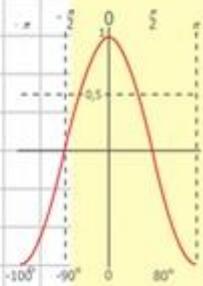
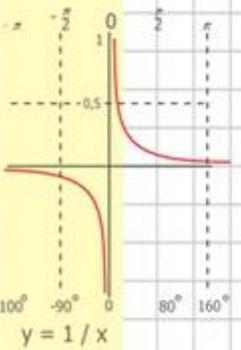
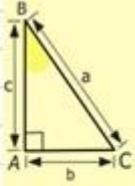
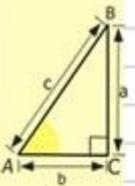


Открытый урок по математике

Учитель:

Леонтиева Елена Павловна
МБОУ «Семилейская СОШ»



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

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

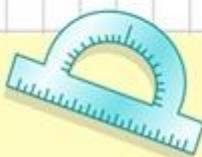


$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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

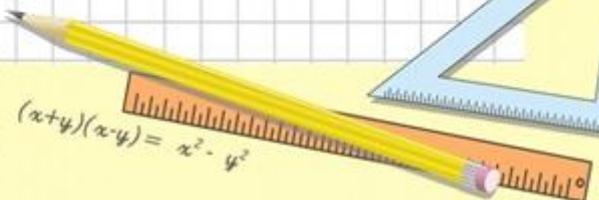


$$\sin 90^\circ = 1$$

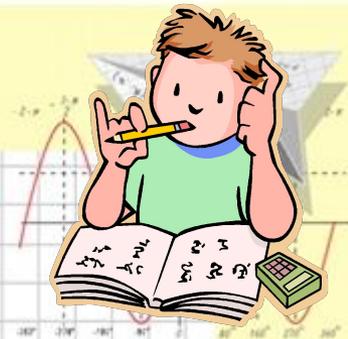


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

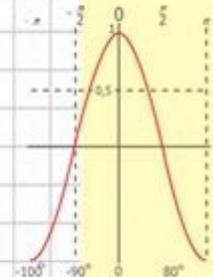
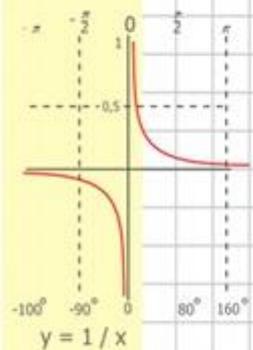


$$(x+y)(x-y) = x^2 - y^2$$



“Кто ничего не замечает,
Тот ничего не изучает,
Кто ничего не изучает,
Тот вечно хнычет и
скучает”

Поэт Роман Семёнович
Сеф



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

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

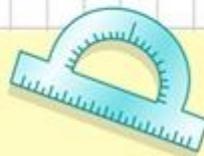


$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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



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



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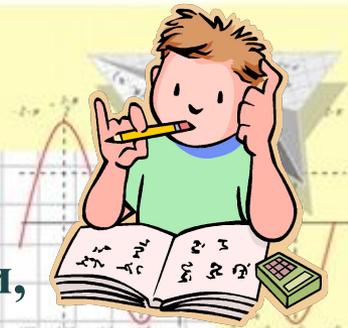
$$\begin{cases} y = 1 \\ x = 25 + 45 \end{cases}$$

$$x = 70$$

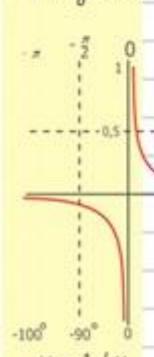
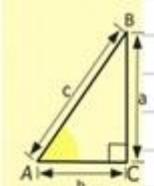
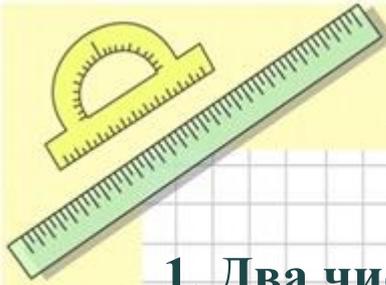


$$(x+y)(x-y) = x^2 - y^2$$

«Да» или «Нет»



1. Два числа, отличающиеся друг от друга только знаками, называются противоположными числами. **Да**
2. Для каждого числа есть два противоположных ему числа. **Нет**
3. Модулем числа a называют расстояние от начала отсчёта до точки, изображающей это число на координатной прямой. **Да**
4. Модуль числа 0 равен нулю. **Да**
5. Модуль числа может быть отрицательным. **Нет**
6. Противоположные числа имеют разные модули. **Нет**
7. Из двух отрицательных чисел меньше то, модуль которого больше. **Да**
8. Нуль меньше любого отрицательного числа. **Нет**
9. Нуль меньше любого положительного числа. **Да**
10. Если к любому числу прибавить нуль, то число не изменится. **Да**



$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 210 \\ + 840 \\ \hline 10500 \end{array}$$

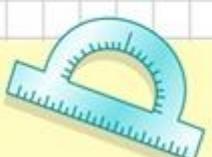


$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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



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

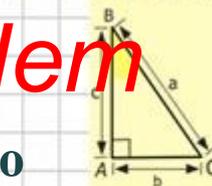


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

$$x = 70$$

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



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



12	14	11	-7	-4	-15	11	3	-15
У	М	Н	О	Ж	Е	Н	И	Е

М: $12 - (-2) = 14$

У: $-3 + 15 = 12$

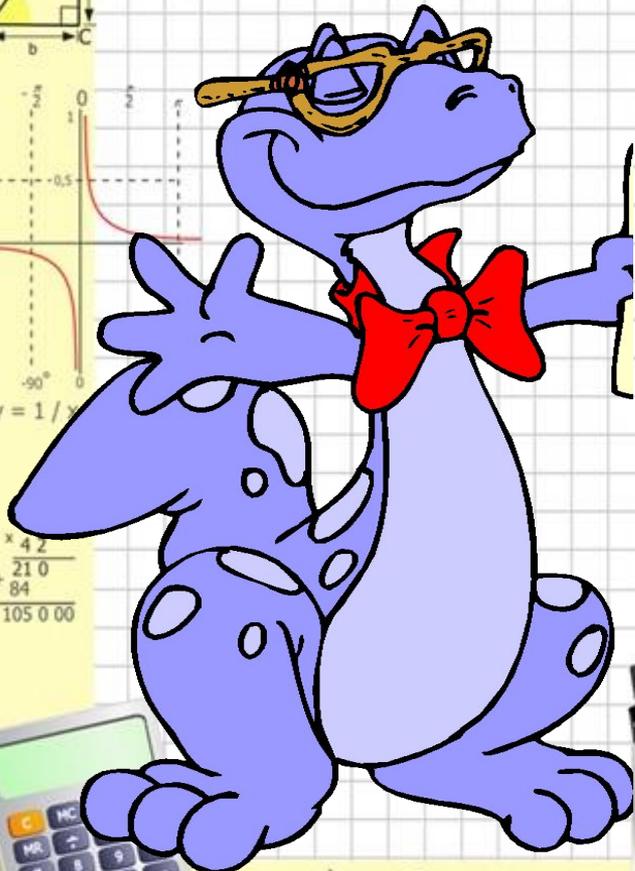
О: $-6 + (-1) = -7$

Ж: $-7 + 3 = -4$

Е: $-13 - 2 = -15$

Н: $18 + (-7) = 11$

И: $(-3) + 6 = 3$



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

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

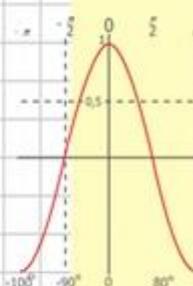
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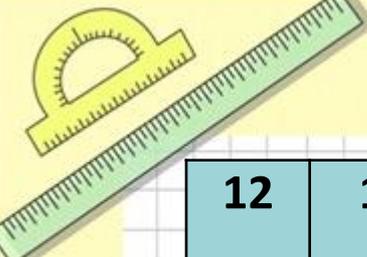
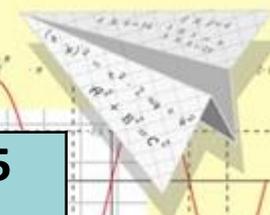
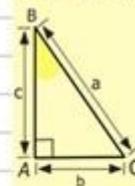
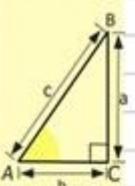
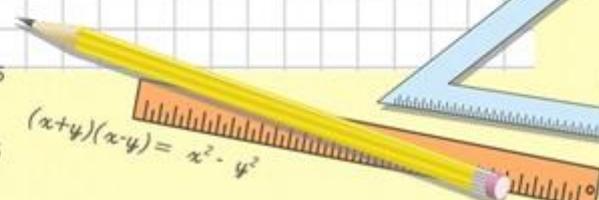
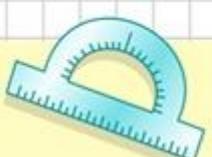
$$(x+y)(x-y) = x^2 - y^2$$



$$y = \cos x$$

- 2 x 2 = 4
- 3 x 3 = 9
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- 6 x 6 = 36
- 7 x 7 = 49
- 8 x 8 = 64

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



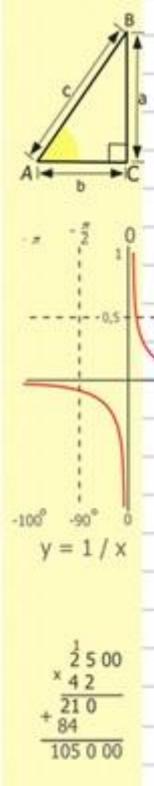
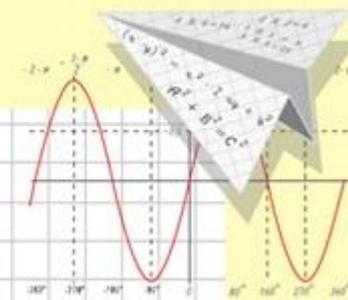
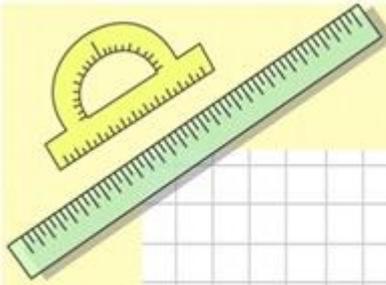
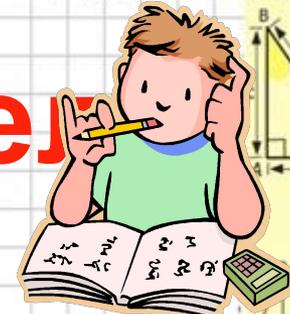
Тема урока:

Умножение рациональных чисел

Цель урока:

Вывести правила умножения рациональных чисел.

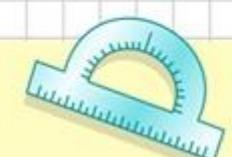
Научиться умножать рациональные числа



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

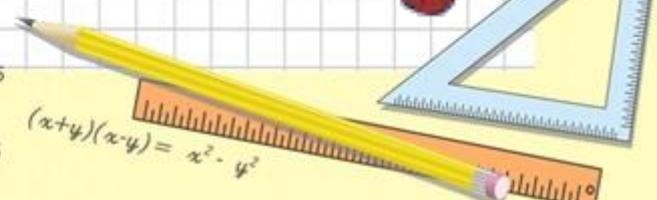
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

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

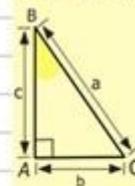
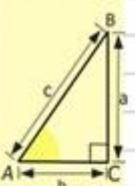
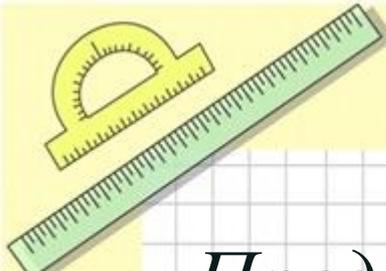


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \\ y = 1 \\ x = 25 + 45 \\ x = 70 \end{cases}$$

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



Представим такую ситуацию, вам по географии задали проследить за средней температурой дня в течении одной недели и в результате получилось так, что в первый день температура была 0, каждый день температура понижалась на 2 градуса. Какая температура была в последний день наблюдений?



$$\begin{array}{r} \frac{1}{2} 500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 10500 \end{array}$$

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



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

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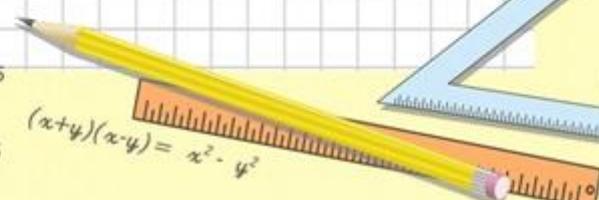
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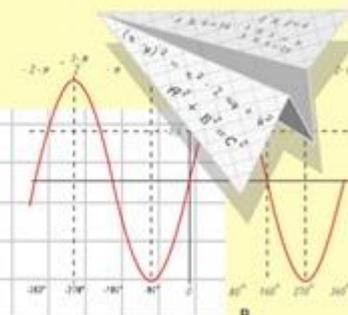
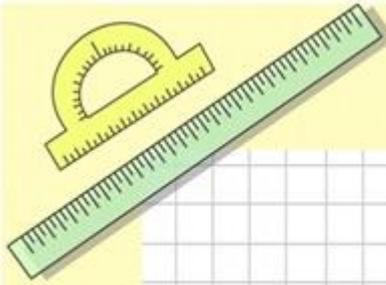
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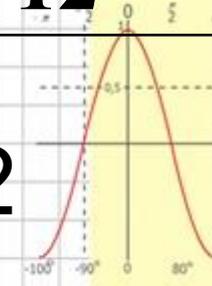
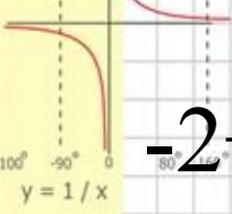
$$x = 70$$



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



Понедельник	Вторник	Среда	Четверг	Пятница	Суббота	Воскресенье
0	-2	-4	-6	-8	-10	-12



$$-2 + (-2) + (-2) + (-2) + (-2) + (-2) = -2 * 6 = -12$$

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

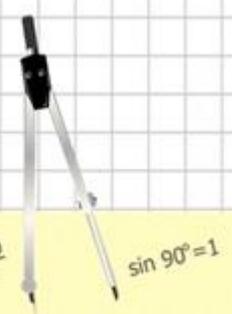
$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \end{array}$$

Какой вывод можно сделать?

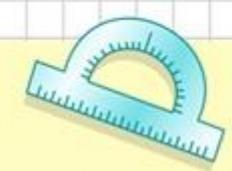


$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

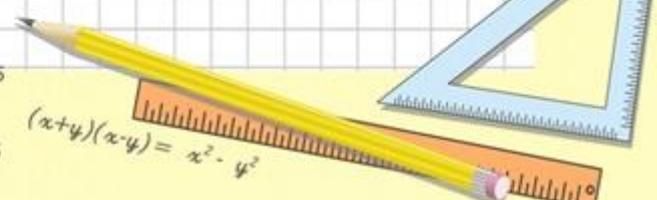
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$



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

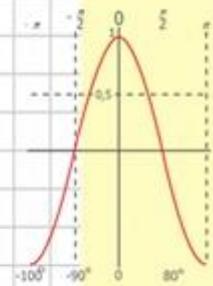
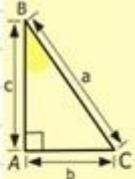
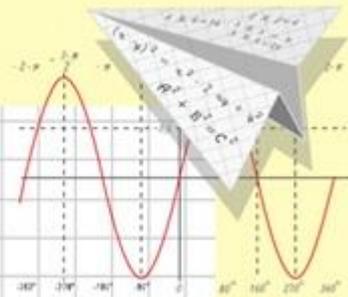
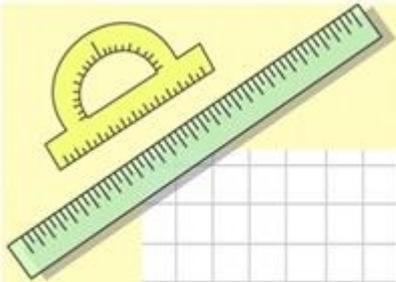


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \\ y = 1 \\ x = 25 + 45 \\ x = 70 \end{cases}$$



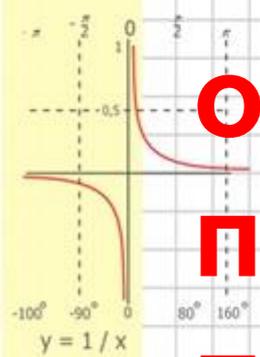
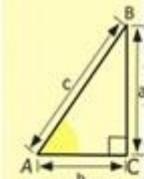
$$(x+y)(x-y) = x^2 - y^2$$

При умножении отрицательного числа на положительное число получается число отрицательное.



$y = \cos x$

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



$y = 1/x$

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

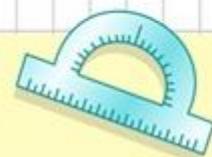


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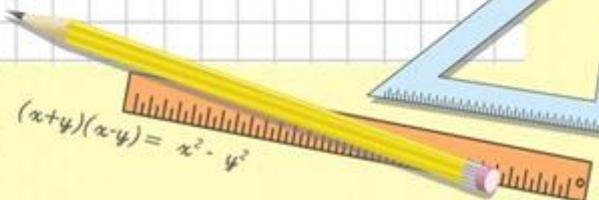
$$\sin 90^\circ = 1$$



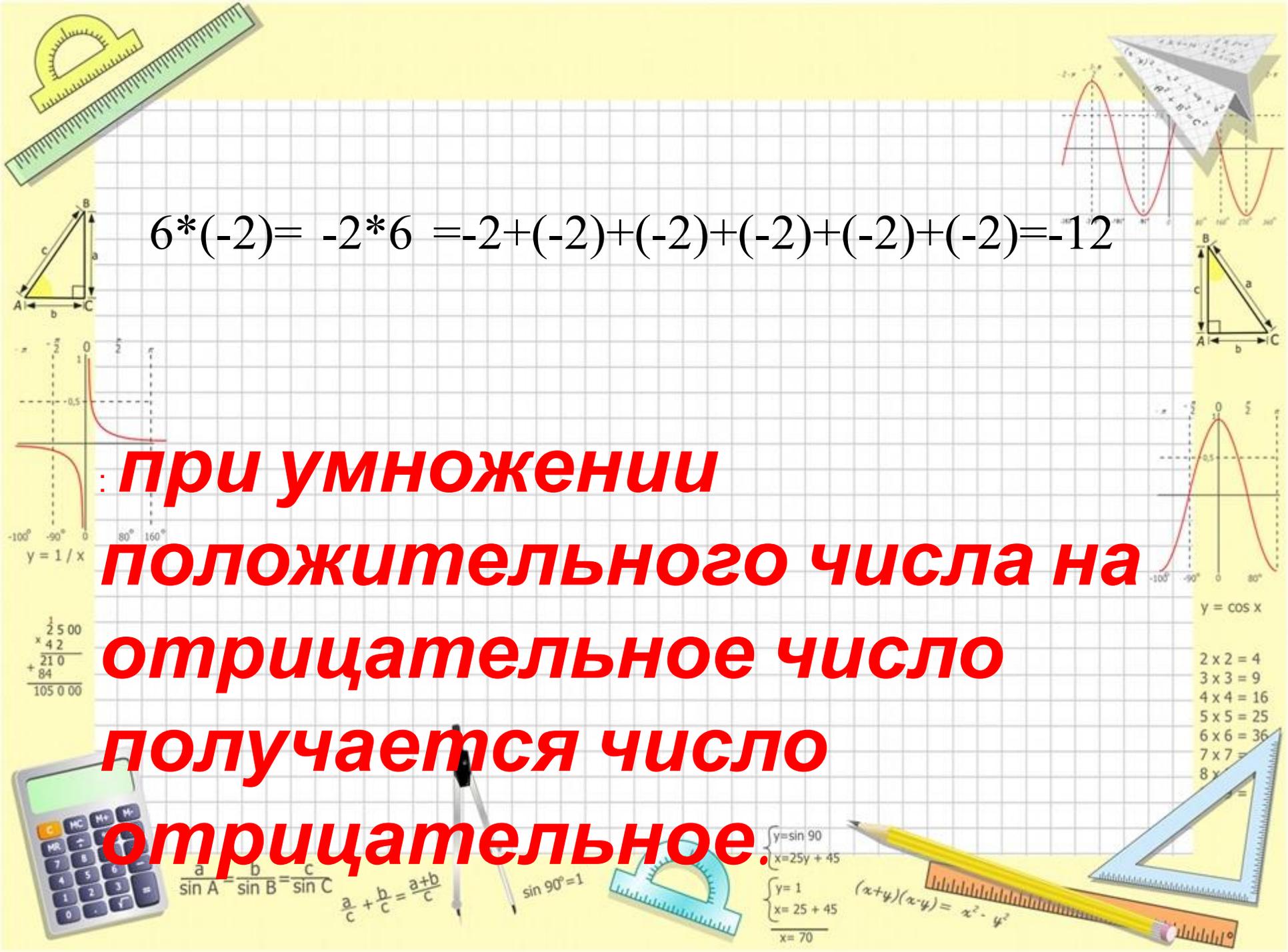
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

$$x = 70$$



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


$$6 * (-2) = -2 * 6 = -2 + (-2) + (-2) + (-2) + (-2) + (-2) = -12$$

**при умножении
положительного числа на
отрицательное число
получается число
отрицательное.**

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

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

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

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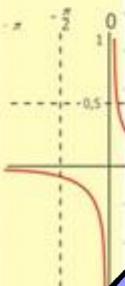
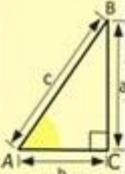
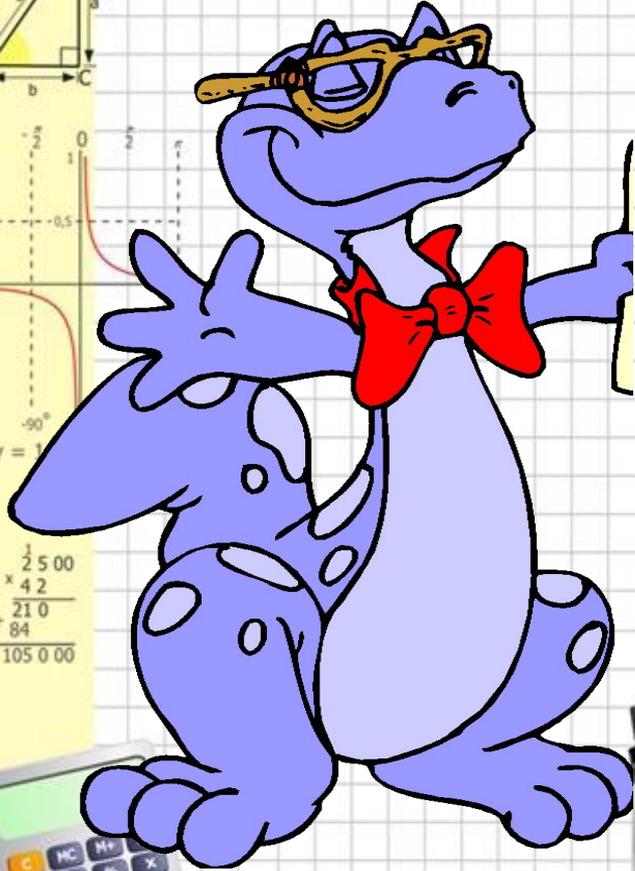
$$x = 70$$

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

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

$$(-5) \cdot 3 ?$$

$$(-5) \cdot 3 = (-5) + (-5) + (-5) = -15$$



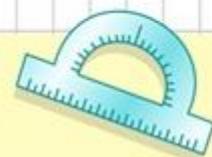
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$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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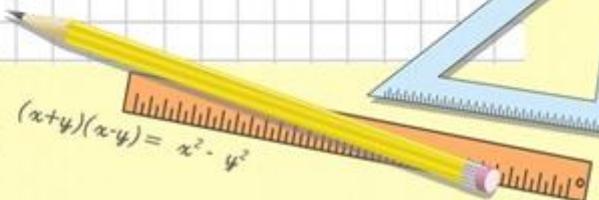
$$\sin 90^\circ = 1$$



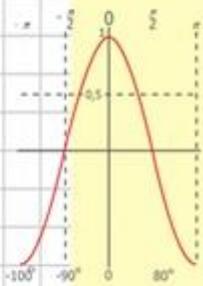
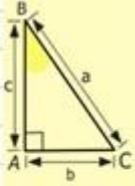
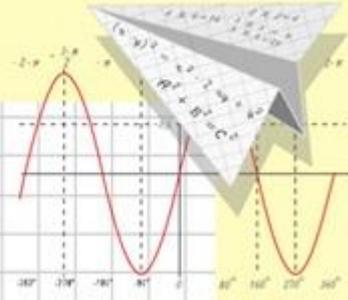
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- $8 \times 8 = 64$

Повторим свойства умножения.

$a \cdot v = v \cdot a$ – переместительное

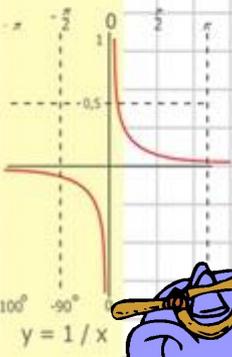
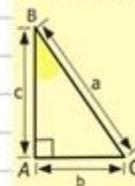
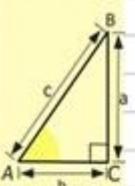
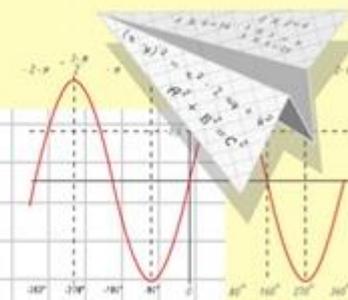
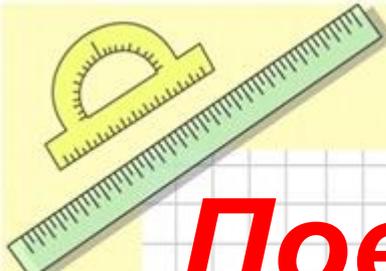
$a \cdot (v \cdot c) = (a \cdot v) \cdot c$ - сочетательное

$a \cdot (v + c) = a \cdot v + a \cdot c$ –
распределительное

$a \cdot 1 = 1 \cdot a = a$

$a \cdot 0 = 0 \cdot a = 0$

Новое: $a \cdot (-1) = -1 \cdot a = -a$



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

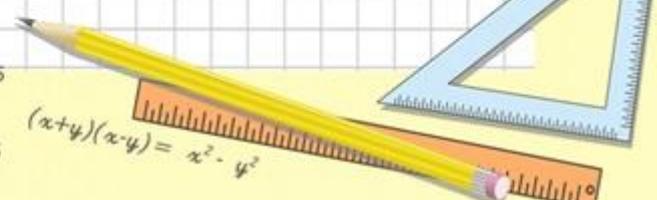
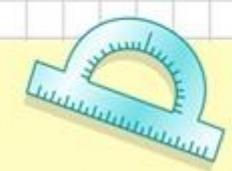
$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

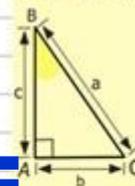
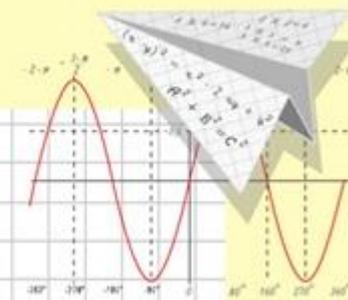
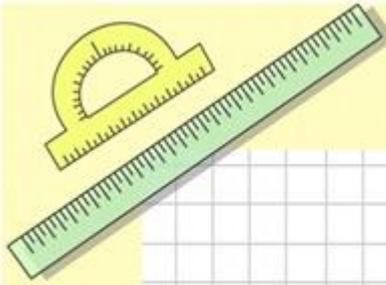
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

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

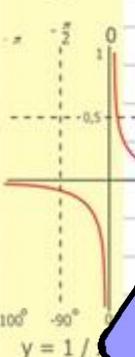
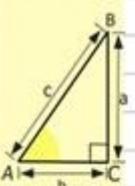
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \\ y = 1 \\ x = 25 + 45 \\ x = 70 \end{cases}$$

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

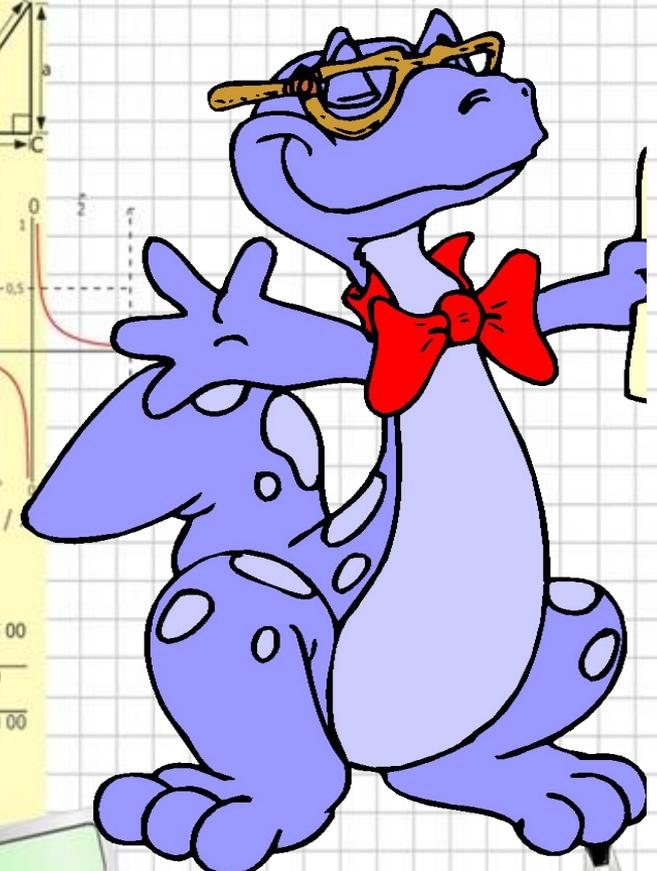




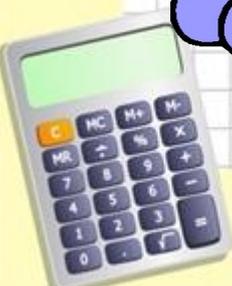
- $y = \cos x$
- $2 \times 2 = 4$
 - $3 \times 3 = 9$
 - $4 \times 4 = 16$
 - $5 \times 5 = 25$
 - $6 \times 6 = 36$
 - $7 \times 7 = 49$
 - $8 \times 8 = 64$



$$\begin{array}{r} \frac{1}{2} 500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 10500 \end{array}$$



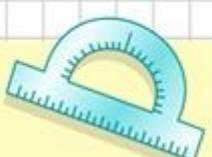
$$\begin{aligned} (-5) \cdot (-3) &= (-1 \cdot 5) \cdot (-3) = \\ &= -1 \cdot (5 \cdot (-3)) = \\ &= -1 \cdot (-15) = 15 \end{aligned}$$



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

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

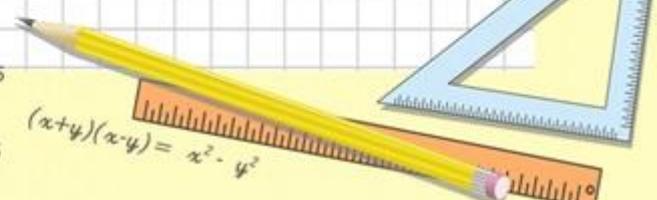
$$\sin 90^\circ = 1$$



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

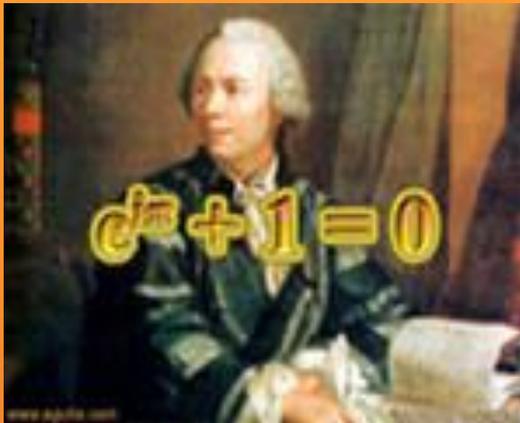
$$\begin{cases} y = 1 \\ x = 25 + 45 \end{cases}$$

$$x = 70$$



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

Историческая справка



Еще XVIII веке великий русский ученый, математик и механик **Леонард Эйлер** объяснил **правило умножения отрицательных чисел** примерно следующим образом.

Ясно, что $(-5) \cdot 3 = (-15)$. Поэтому произведение $(-5) \cdot (-3)$ не может быть равно (-15) . Однако оно должно быть связано как-то с числом 15. Остается одна возможность $(-5) \cdot (-3) = 15$.

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

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

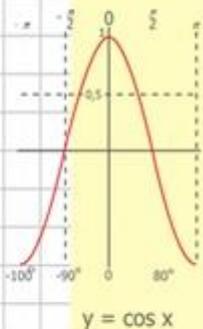
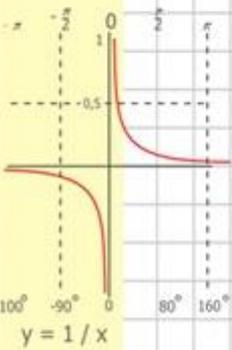
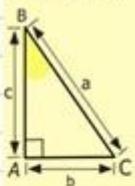
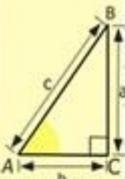
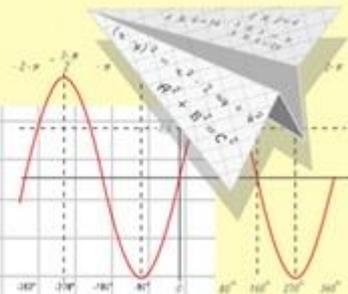
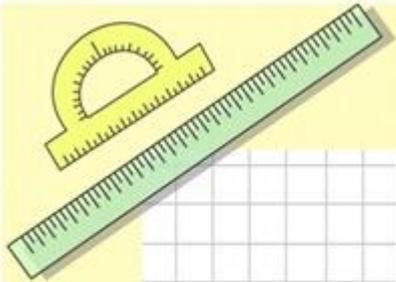
$$\sin 90^\circ = 1$$

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

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

- 2 = 4
- 3 = 9
- 4 = 16
- 5 = 25
- 6 = 36
- 7 = 49

При умножении двух отрицательных чисел получается положительное число



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

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

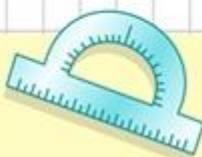


$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

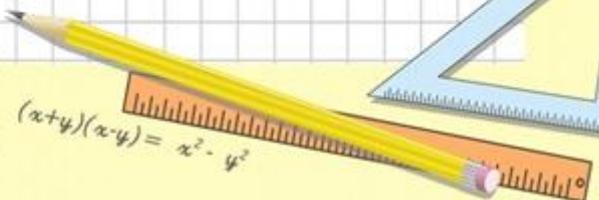
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$



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



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



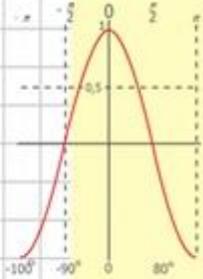
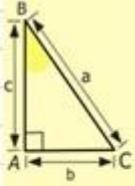
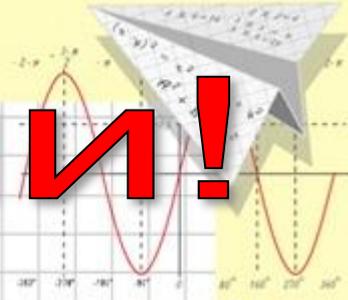
$$(x+y)(x-y) = x^2 - y^2$$



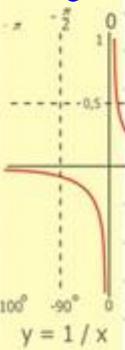
Запомни!

✓ Чтобы умножить два числа с разными знаками, надо умножить их модули и перед полученным произведением поставить знак «-».

✓ Чтобы умножить два отрицательных числа, надо умножить их модули.



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



$$\begin{array}{r} 25 \\ \times 42 \\ \hline 210 \\ + 840 \\ \hline 10500 \end{array}$$

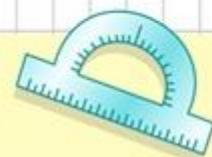


$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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



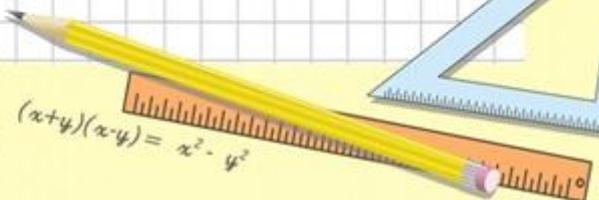
$$\sin 90^\circ = 1$$



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

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

$$x = 70$$



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

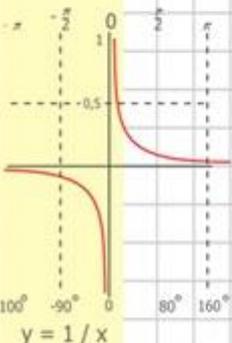
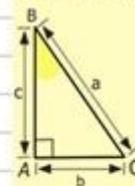
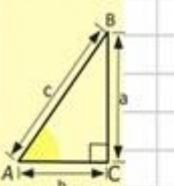
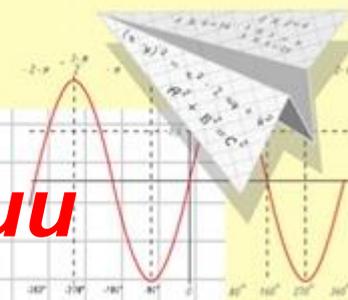
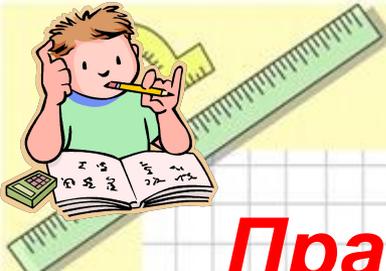
Правила знаков при умножении

$$(+) \cdot (+) = (+)$$

$$(-) \cdot (-) = (+)$$

$$(+) \cdot (-) = (-)$$

$$(-) \cdot (+) = (-)$$



$\begin{array}{r} 2500 \\ \times 42 \\ \hline \end{array}$

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



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

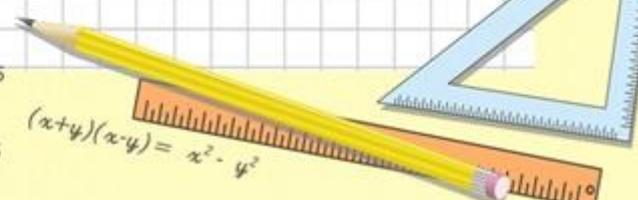
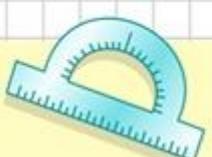
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$$(x+y)(x-y) = x^2 - y^2$$

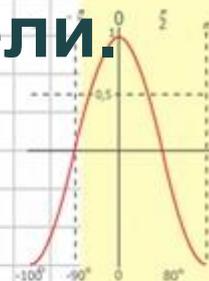
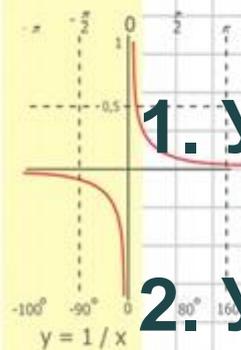
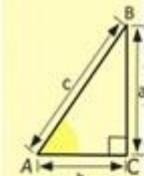
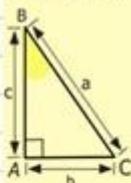
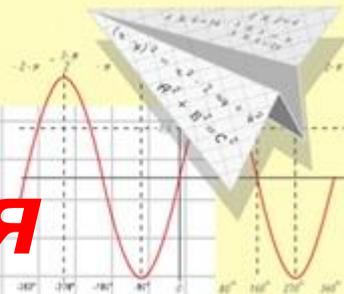
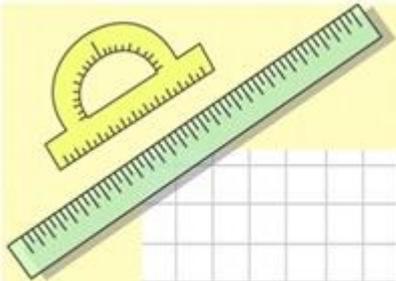


Алгоритм умножения рациональных чисел:

1. Установить какие знаки имеют множители.

2. Установить знак результата.

3. Найти модуль произведения.



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

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

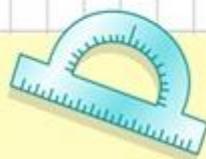


$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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



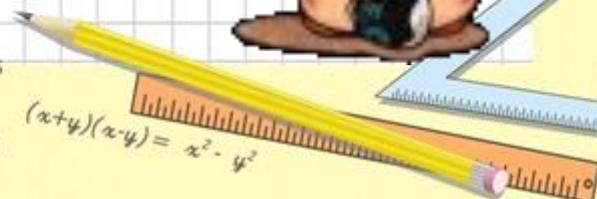
$$\sin 90^\circ = 1$$



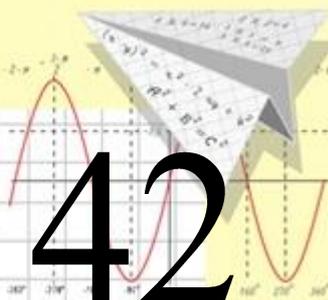
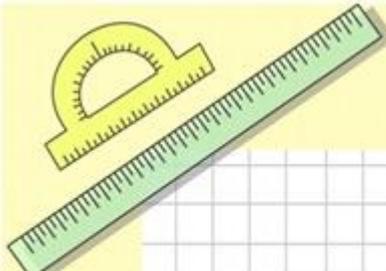
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

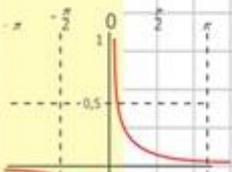
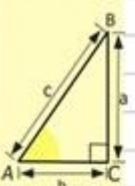
$$\begin{cases} y = 1 \\ x = 25 + 45 \end{cases}$$

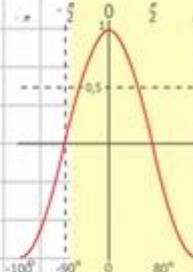
$$x = 70$$

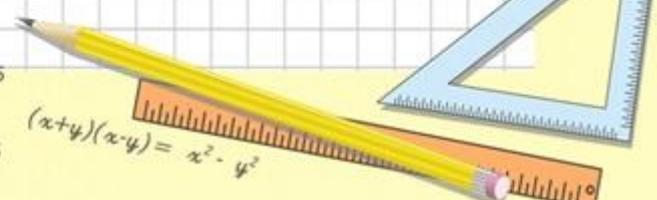
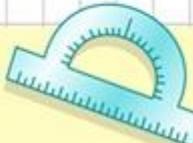
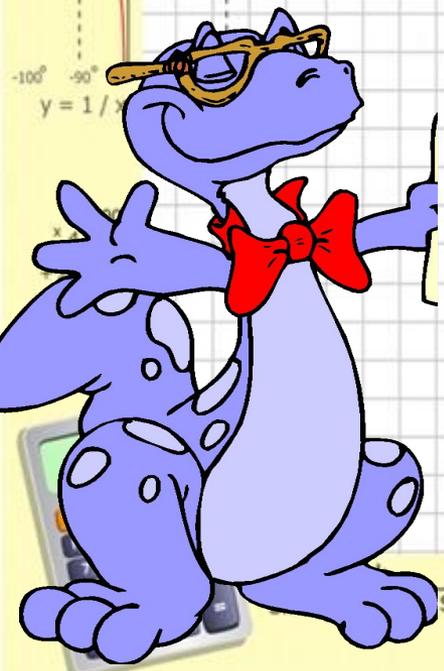


$$(x+y)(x-y) = x^2 - y^2$$


$$7 \cdot (-6) = -42$$


$$-8 \cdot (-4) = 32$$


$$-1 \cdot 1,1 = -1,1$$


$$-1,34 \cdot 0 = 0$$

$$\frac{c}{\sin C}$$

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

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

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

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

$$x = 70$$

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

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

Найдите ошибку :

а) $-3 \cdot (-6) = -18$ **18**

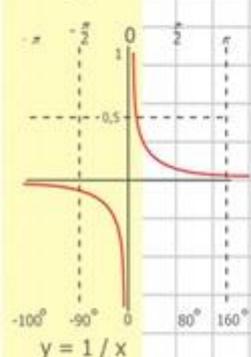
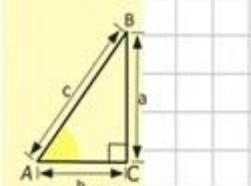
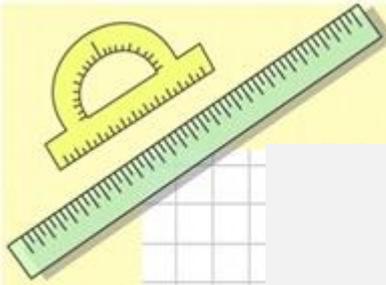
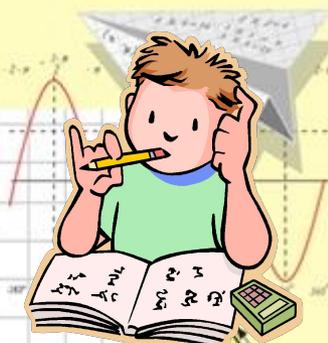
б) $5 \cdot (-0,4) = 2$ **-2**

в) $6 \cdot (-1,2) = -7,2$

г) $-24 \cdot (-0,5) = -12$ **12**

д) $-10 \cdot (-10) = 100$

е) $-10 \cdot 34 = -3,4$ **-340**



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



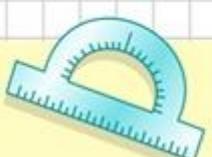
$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \end{array}$$



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

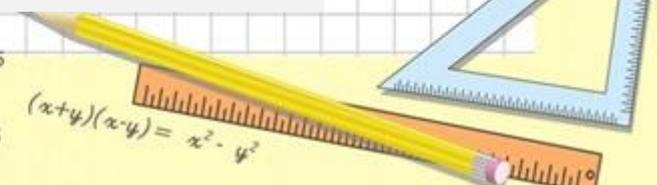
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

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



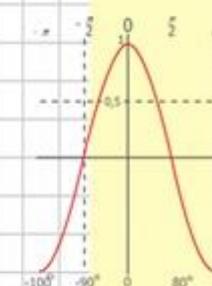
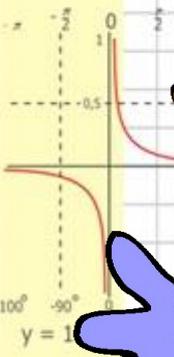
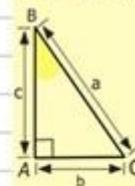
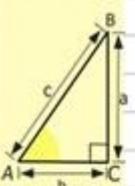
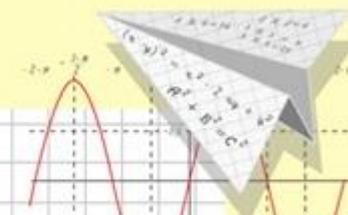
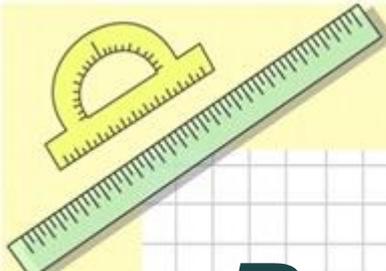
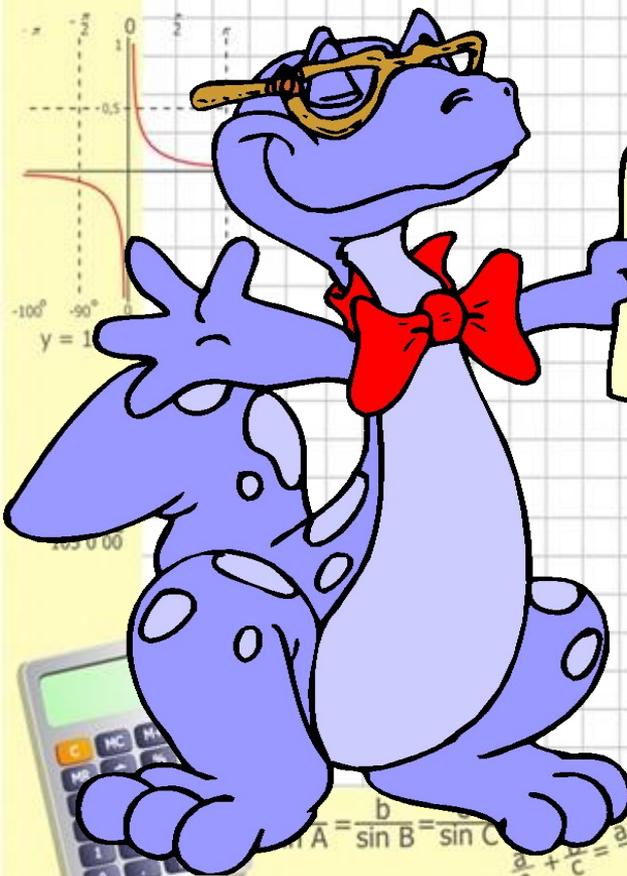
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \\ y = 1 \\ x = 25 + 45 \\ x = 70 \end{cases}$$

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

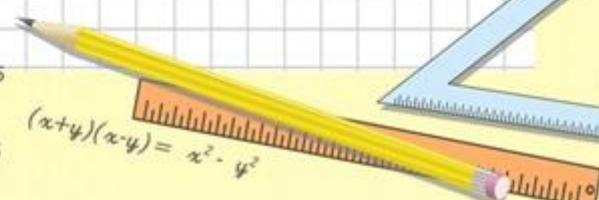
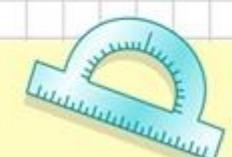


Выполним упражнения из учебника

№1033 (1,2,3,4,5,6)



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



$$\sin A = \frac{a}{c}, \sin B = \frac{b}{c}, \sin C = \frac{c}{c} = 1$$
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

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

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

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

Самостоятельная работа.

1 вариант

1) $5 * (-12) =$

2) $-14 * (-7) =$

3) $-5 * 10 =$

4) $-6 * (-9) =$

5) $23 * (-15) =$

2 вариант

1) $6 * (-12) =$

2) $-15 * (-6) =$

3) $-7 * 10 =$

4) $-9 * (-7) =$

5) $32 * (-13) =$

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

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

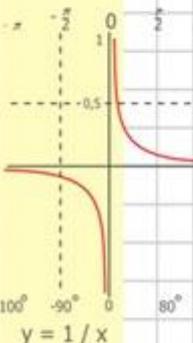
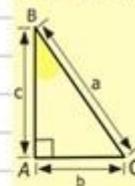
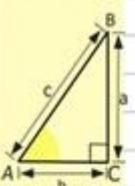
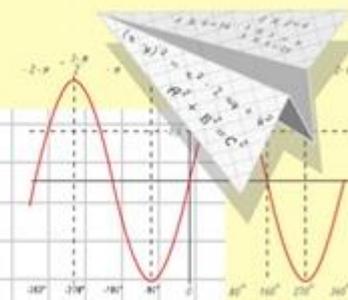
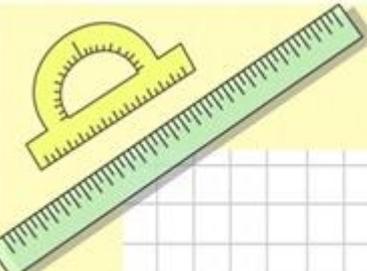
$$\sin 90^\circ = 1$$

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

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

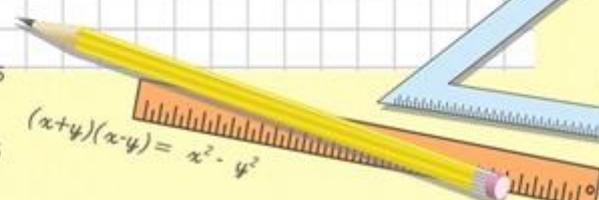
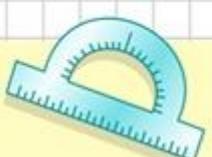
$$x = 70$$

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



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

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



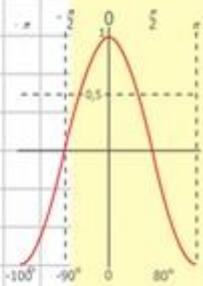
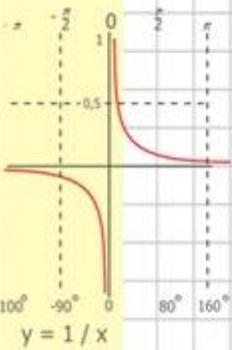
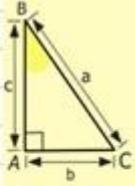
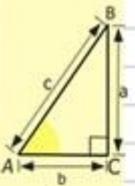
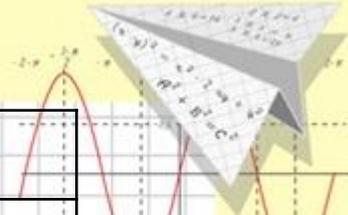
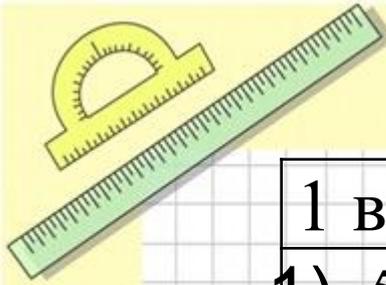
1 вариант	2 вариант
1) $5 * (-12) = -60$	1) $6 * (-12) = -72$
2) $-14 * (-7) = 98$	2) $-15 * (-6) = 90$
3) $-5 * 10 = -50$	3) $-7 * 10 = -70$
4) $-6 * (-9) = 54$	4) $-9 * (-7) = 63$
5) $23 * (-15) = -345$	5) $32 * (-13) = -416$

5 правильных ответов – оценка «5»

4 правильных ответов – оценка «4»

3 правильных ответов – оценка «3»

0-2 правильных ответов – оценка «2»



$$\begin{array}{r} \frac{1}{2} 500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 10500 \end{array}$$

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

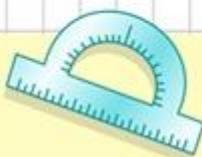


$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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



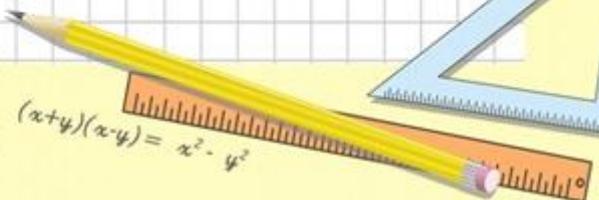
$$\sin 90^\circ = 1$$



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

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

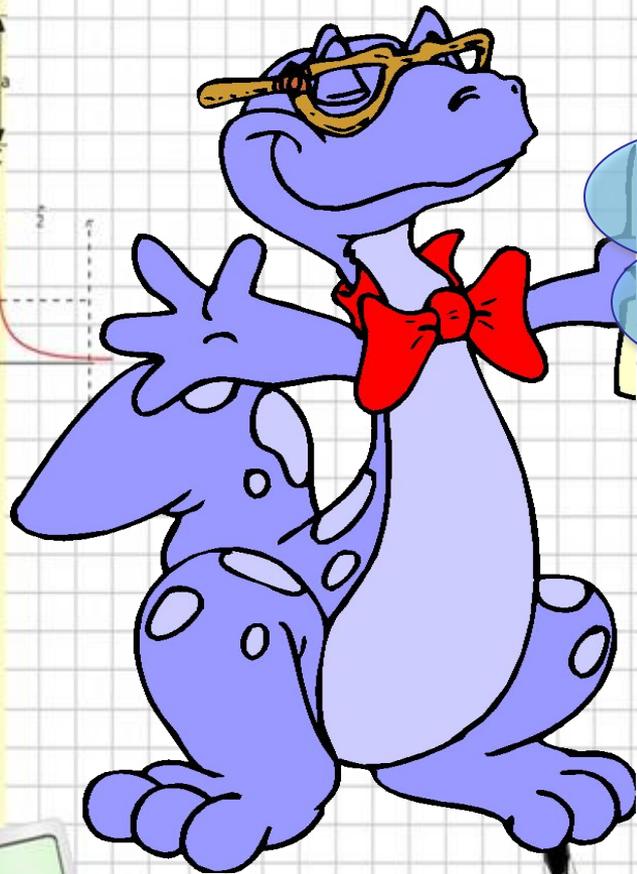
$$x = 70$$



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

Домашнее задание

§37, ответить
на вопросы 1-4.
№ 1034



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

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

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

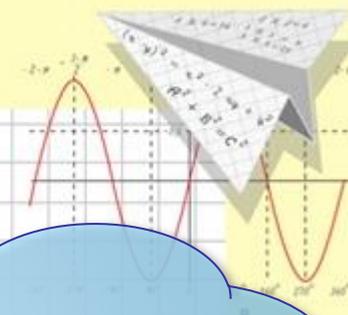
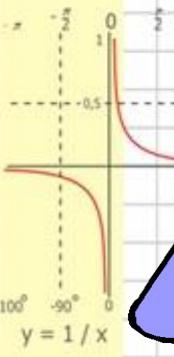
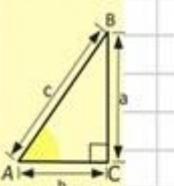
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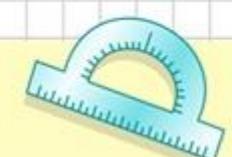
$$x = 70$$

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

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



Рефлексия

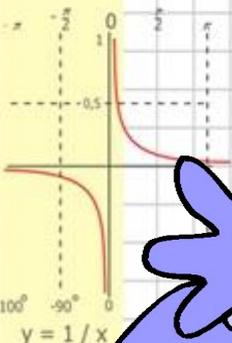
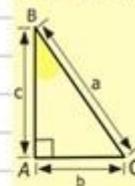
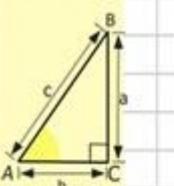
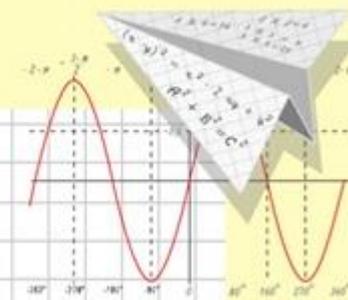
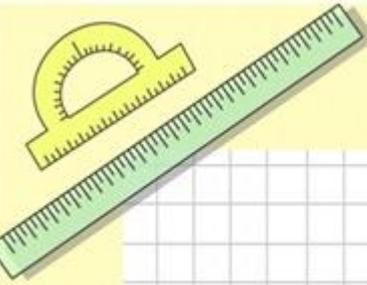
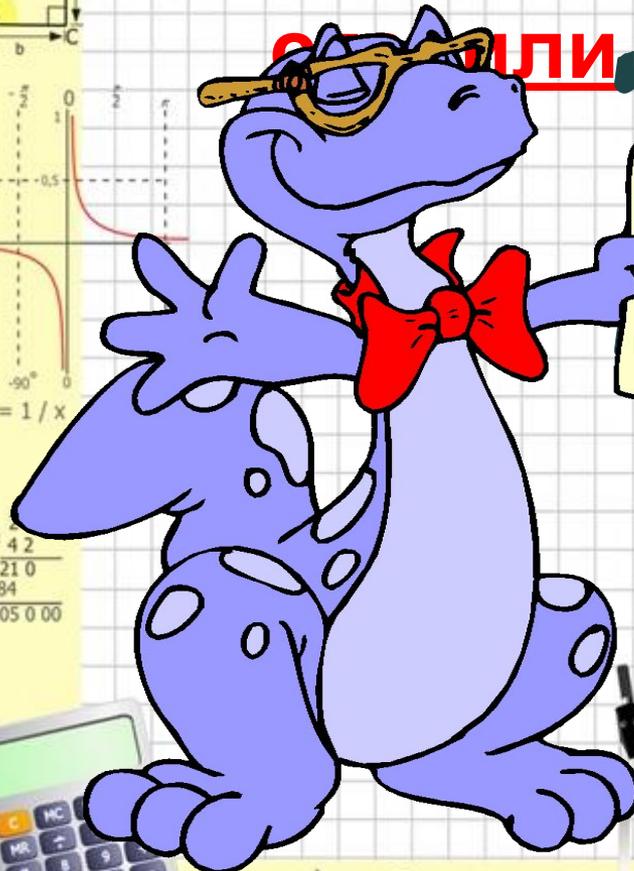
Какую мы цель сегодня

Сформулировать

✓ Вывести правила
умножения

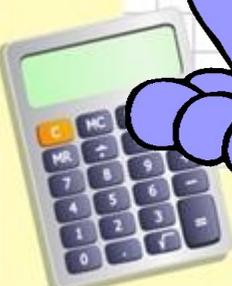
рациональных чисел.

✓ Научиться умножать
рациональные числа



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

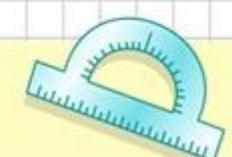
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$$\sin 90^\circ = 1$$

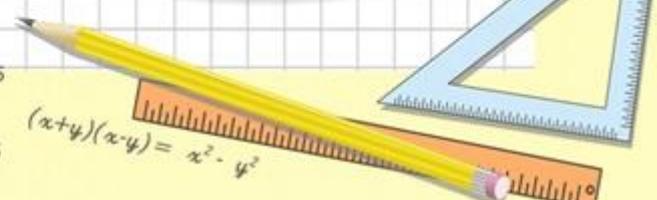


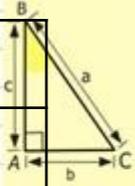
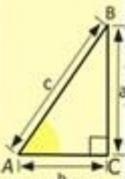
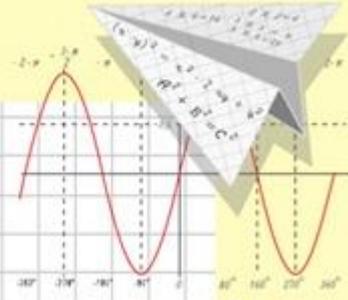
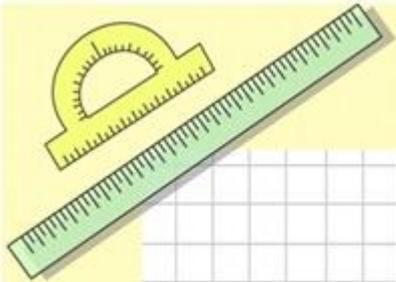
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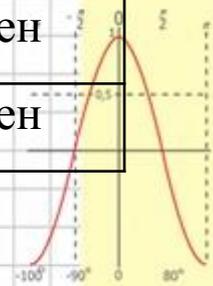
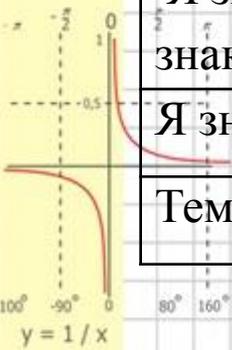
$$x = 70$$

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





ФИО _____	Нужное подчеркнуть		
Я знаю, как умножаются два числа с разными знаками	Да	Нет	Не уверен
Я знаю, как умножаются два отрицательных числа	Да	Нет	Не уверен
Тема сегодняшнего урока мне была интересна	Да	Нет	Не уверен



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

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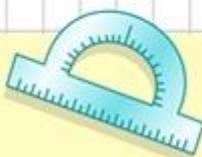


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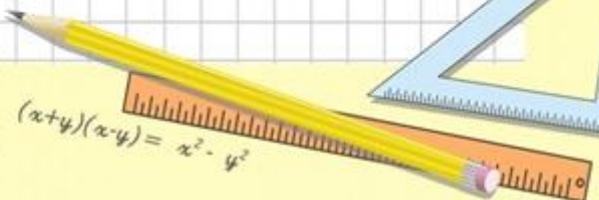


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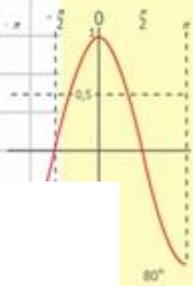
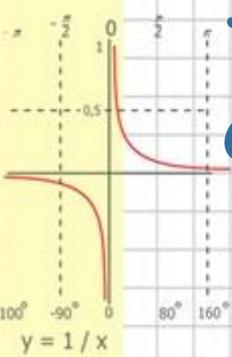
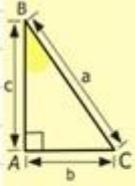
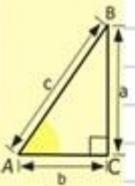
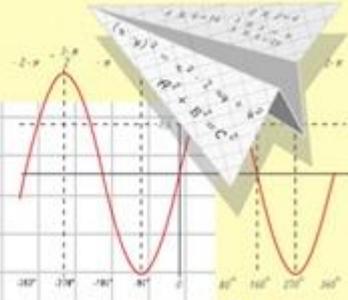
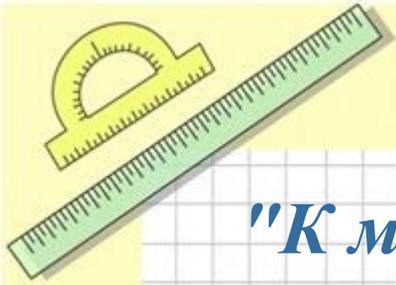
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$$(x+y)(x-y) = x^2 - y^2$$

*"К математике способность проявляй,
 Не ленись, а ежедневно развивай.
 Умножай, дели, трудись, соображай,
 С математикой дружить не забывай".*



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



- cos x
- = 4
- = 9
- = 16
- = 25
- = 36

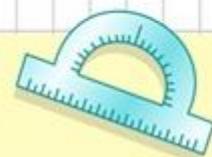


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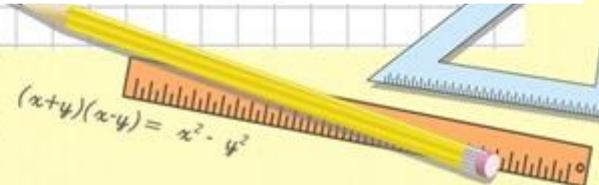


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$$(x+y)(x-y) = x^2 - y^2$$