

Устная работа

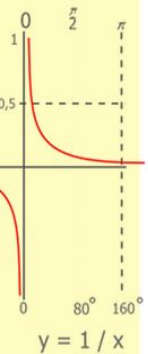
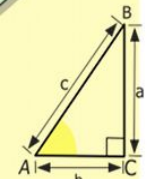
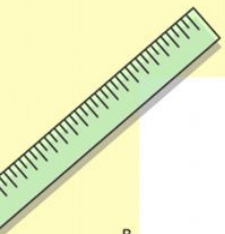
Разложите на множители:

а) $3x - 9 = 3(x - 3);$

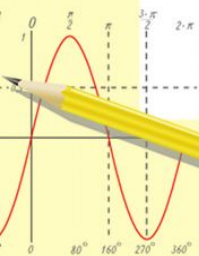
б) $m^2 - 16 = (m - 4)(m + 4);$

в) $x^2 - 12x + 36 = (x - 6)^2;$

г) $x^2 + 6x + 9 = (x + 3)^2.$



$$\begin{array}{r} 1\ 2\ 5\ 00 \\ \times 4\ 2 \\ \hline 21\ 0 \\ + 84 \\ \hline 105\ 0\ 00 \end{array}$$



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

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

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

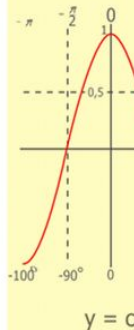
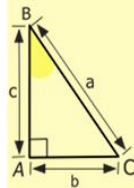
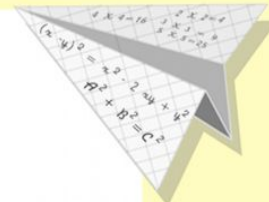


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

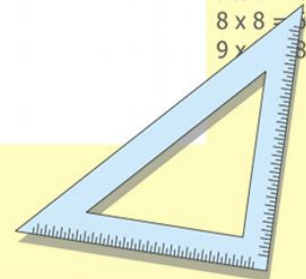
$$\begin{cases} y = 1 \\ x = 25 + 45 \end{cases}$$

$$x = 70$$

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



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

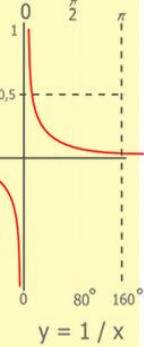
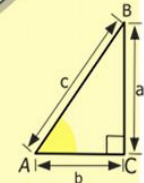
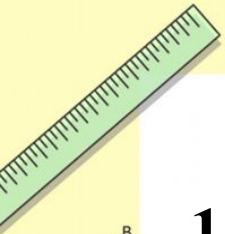


Сократите дробь

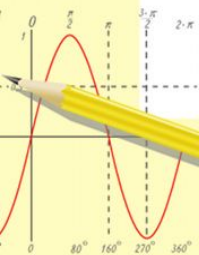
$$1. \quad \frac{m^2 - 4}{m + 2} = \frac{(m + 2)(m - 2)}{m + 2} = m - 2;$$

$$2. \quad \frac{5x - 20}{x - 4} = \frac{5(x - 4)}{x - 4} = 5;$$

$$3. \quad \frac{3(x - 5)^2}{x^2 - 10x + 25} = \frac{3(x - 5)^2}{(x - 5)^2} = 3.$$



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



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

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

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

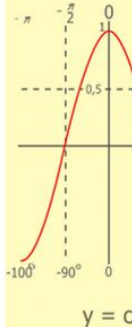
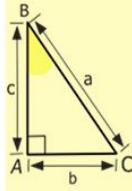
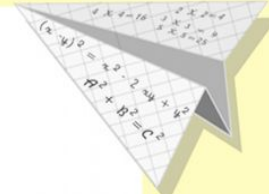


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

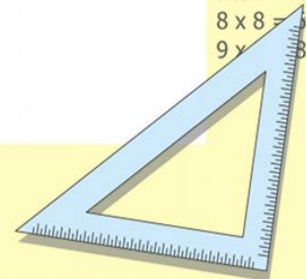
$$x = 70$$

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



$$y = \cos$$

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

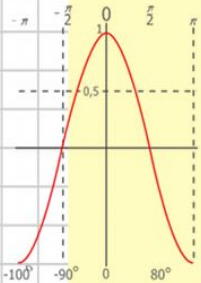
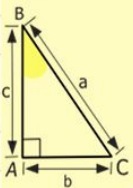
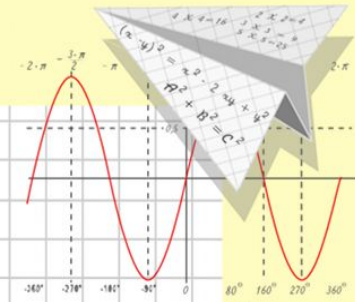
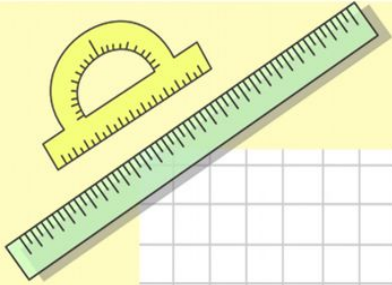


Математик

а

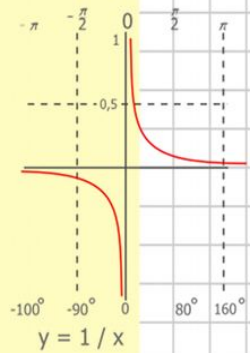
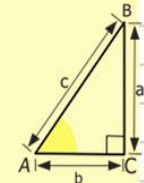
Тема урока

Умножение рациональных дробей



y = cos x

- 2 x 2 = 4
- 3 x 3 = 9
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$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

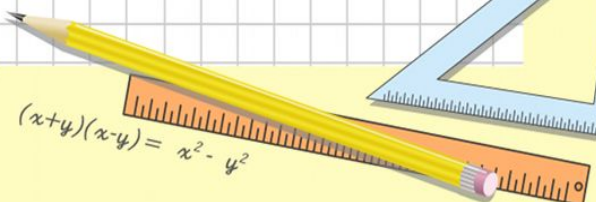
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$



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



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

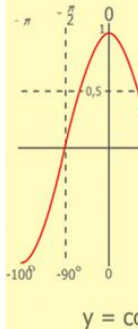
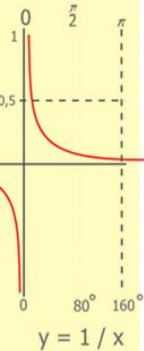
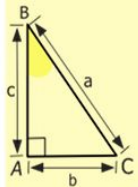
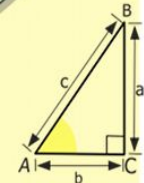
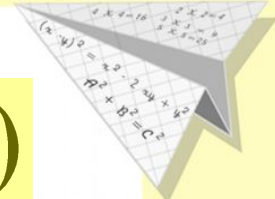
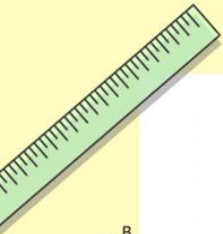


$$(x+y)(x-y) = x^2 - y^2$$

Выполните умножение

$$\frac{a}{b+c} \cdot \frac{b^2 - c^2}{a^2} = \frac{a \cdot (b^2 - c^2)}{(b-c) \cdot a^2} =$$

$$= \frac{\cancel{a} \cdot (b-c)(b+c)}{(b-c) \cdot a^{\cancel{2}}} = \frac{b+c}{a} \cdot$$



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

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

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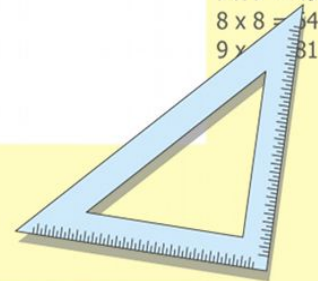
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$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

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



Выполните умножение

$$\frac{x^2 y}{25y^2 - 4} \cdot \frac{5y + 2}{3xy^2} = \frac{x^2 y \cdot (5y + 2)}{(25y^2 - 4) \cdot 3xy^2}$$

$$= \frac{\cancel{x^2} \cancel{y} \cdot \cancel{(5y + 2)}}{(\cancel{5y + 2})(5y - 2) \cdot \cancel{3} \cancel{xy}^2} = \frac{x}{3y(5y - 2)}$$

$$= \frac{x}{15y^2 - 6y}$$

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

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

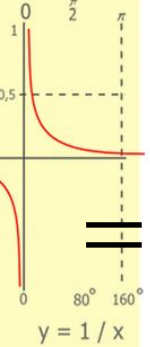
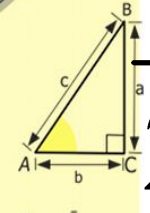
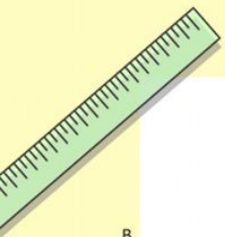
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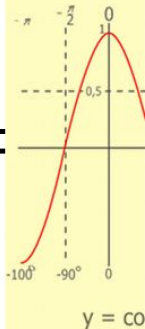
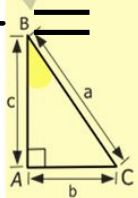
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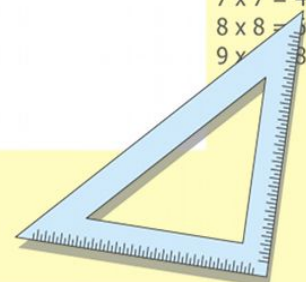
$$(x+y)(x-y) = x^2 - y^2$$



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



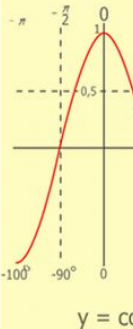
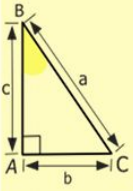
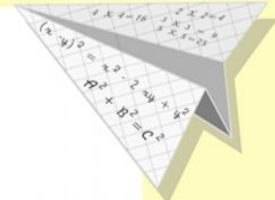
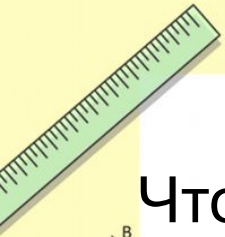
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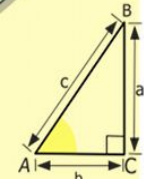
АЛГОРИТМ УМНОЖЕНИЯ ДРОБЕЙ

Чтобы умножить рациональные дроби надо:

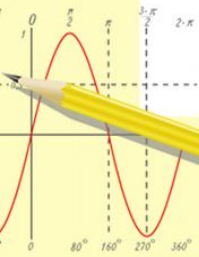
1. Перемножить их числители и перемножить их знаменатели.
2. Первое произведение записать числителем, а второе знаменателем дроби.
3. Разложить на множители числитель и знаменатель полученной дроби (если возможно).
3. Сократить дробь на общий множитель числителя и знаменателя.
5. Записать результат.



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- $3 \times 3 = 9$
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$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 105000 \end{array}$$



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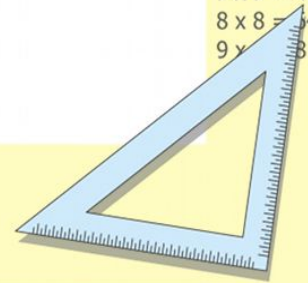
$$\sin 90^\circ = 1$$



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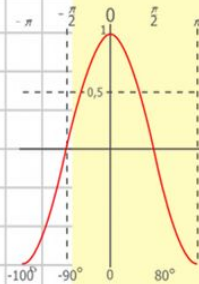
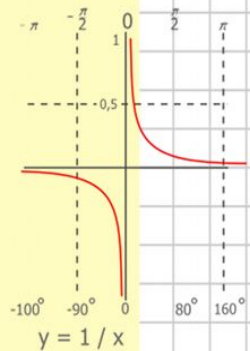
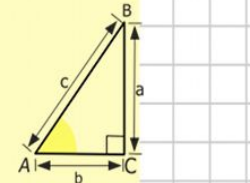
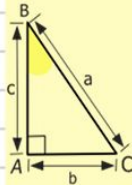
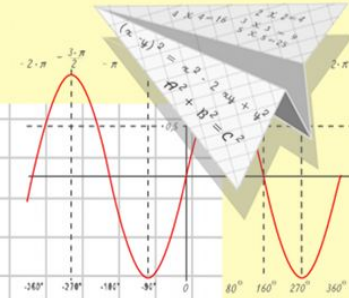
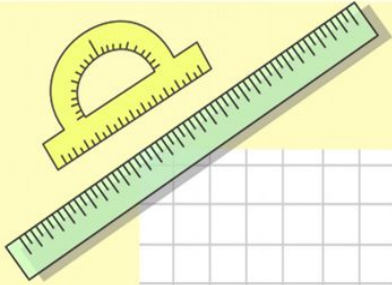


Математик

а

Цель урока

Научиться умножать
рациональные дроби,
используя способы
разложения многочлена на
множители



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

$y = \cos x$

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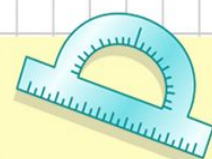


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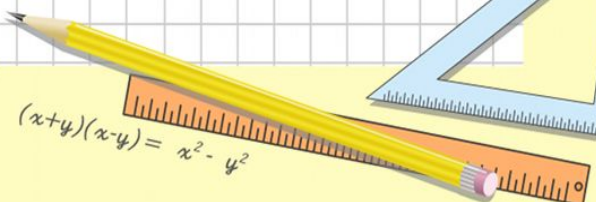
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$



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



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



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

Критерии оценивания задания самостоятельной работы

За правильно решенные задания

- 5 баллов - «3»;
- 6-7 баллов - «4»;
- 8-9 баллов - «5».

Задание 1

Получен верный ответ-1балл.

Задание 2

Получен верный ответ-2 балла.

Задание 3

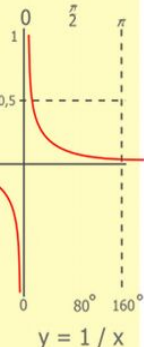
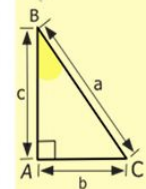
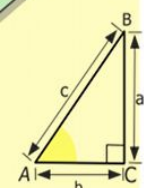
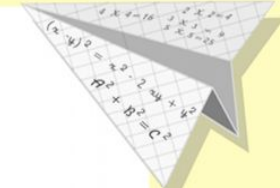
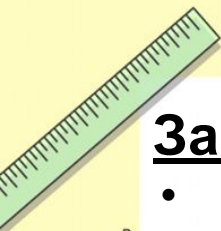
Получен верный ответ-3 балла.

Решение содержит верные преобразования, но не учтен знак при сокращении противоположных множителей-2 балла.

Задание 4

Получен верный ответ-3 балла.

Правильно применены способы разложения на множители, но допущена ошибка при сокращении дробей-2 балла.



$$\begin{array}{r} 1 \ 5 \ 00 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 105000 \end{array}$$

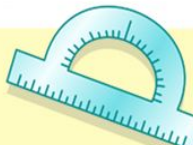
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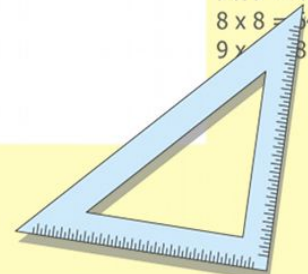
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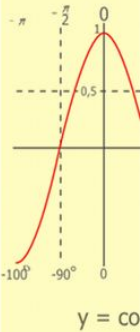
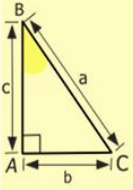
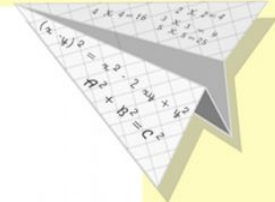
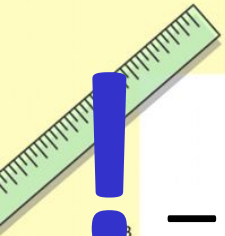
$$(x+y)(x-y) = x^2 - y^2$$



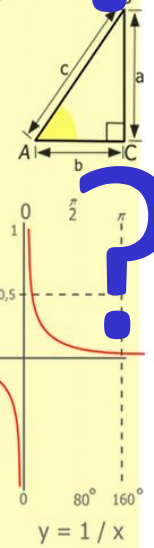
! - НЕТ ПРОБЛЕМ

? - ЕСТЬ ПРОБЛЕМЫ, НО МАТЕРИАЛ В ОСНОВНОМ ПОНЯТ

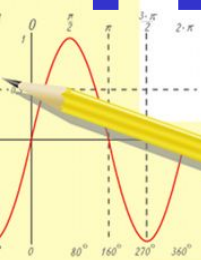
■ ■ ■ ● ● - МНЕ ТРУДНО



- 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



$$\begin{array}{r} 1\ 5\ 00 \\ \times 4\ 2 \\ \hline 21\ 0 \\ + 84\ 0 \\ \hline 105\ 0\ 00 \end{array}$$



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

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

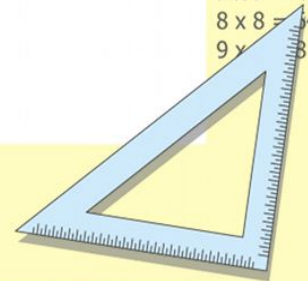
$$\sin 90^\circ = 1$$



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

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

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

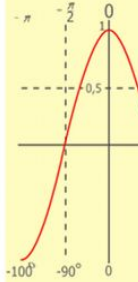
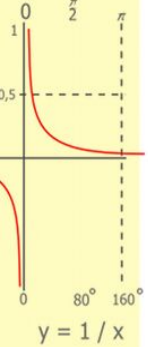
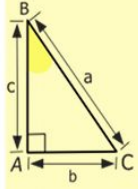
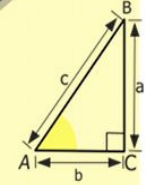
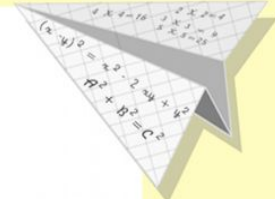
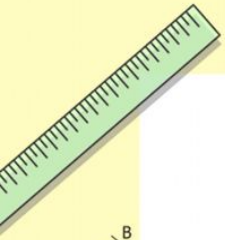


Домашнее задание

№ 120 (а,б)

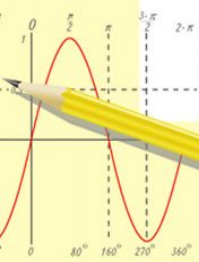
№ 123 (б,в)

№ 126 (б,г)



$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 2100 \\ + 840 \\ \hline 105000 \end{array}$$

- 2 x 2 = 4
- 3 x 3 = 9
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$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

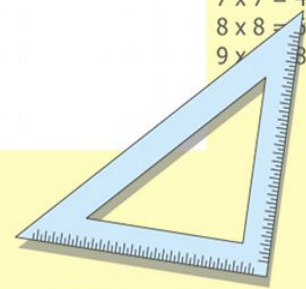
$$\sin 90^\circ = 1$$



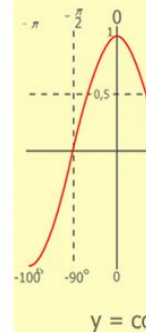
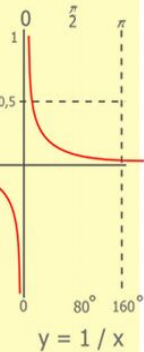
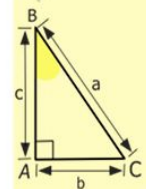
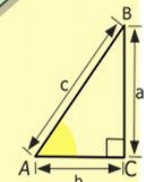
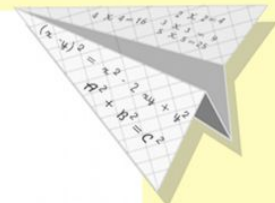
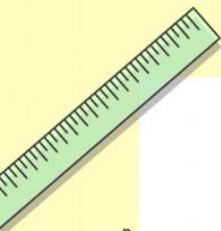
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$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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



Спасибо за внимание!



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

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



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