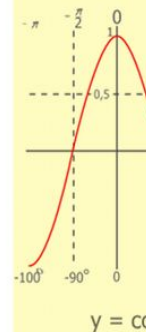
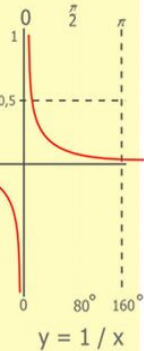
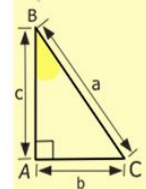
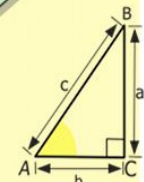
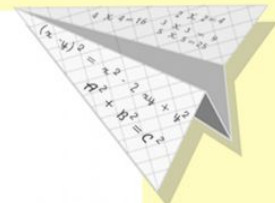
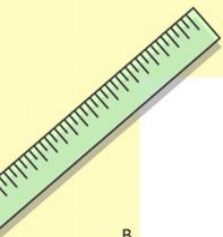


Формулы сокращенного умножения

Составила Аврамец Л.Н.
Учитель математики
Струговской ООШ,
Приморский край,
Октябрьский район



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

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



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

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

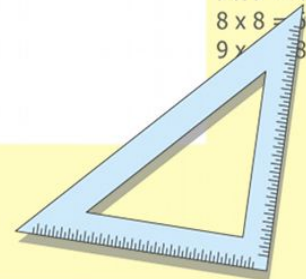
$$\sin 90^\circ = 1$$



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

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

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

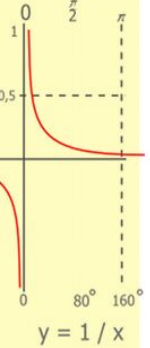
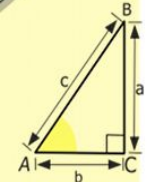
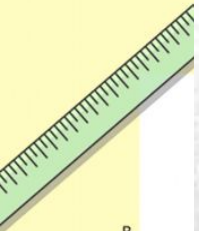


«У математиков
существует
свой язык - это
формулы».

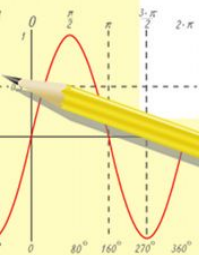


Ковалевская
Софья Васильевна

1850-1891г.



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



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

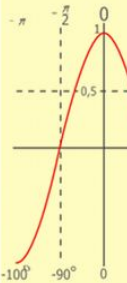
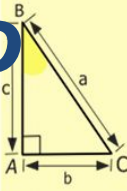
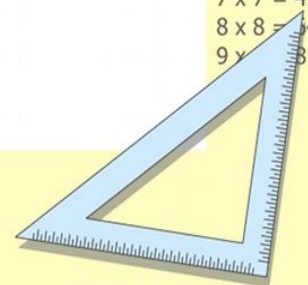


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$$x = 70$$

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



$$y = \cos$$

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- $8 \times 8 = 64$
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Многочлен

Это сумма одночленов

Одночлен

Произведение числовых и буквенных множителей



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

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

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

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

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

ДИКОВИННЫЕ НАЗВАНИЯ

Одночлен
Как можно назвать
одночлен?
МОНОМ

Двучлен -
Как можно назвать
двучлен?
БИНОМ

Многочлен -
Как можно по-другому
назвать многочлен?
ПОЛИНОМ

Как по-
другому
можно
назвать
трехчлен?
ТРИНОМ

Как называется данный
многочлен, учитывая его
степени?
**Однородный
многочлен**

$$3ab - 4a^2 + 5ab$$

Как
называется
многочлен
с
одной
переменной
таким
образом?
**Многочлен с
одной
переменной**

$$4a^2 + 5a - 2a^3$$

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

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

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

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

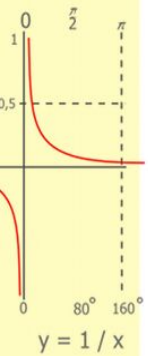
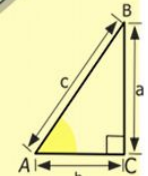
НАЙДИТЕ ЗНАЧЕНИЕ ВЫРАЖЕНИЯ



$$(4a)^2; (0,5y)^2; (1/2x)^2; (10xy)^2;$$

$$(3/4c)^2; 1^3; 2^3;$$

$$5^3; (0,4y)^3; (2/3z)^3.$$



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



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

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

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

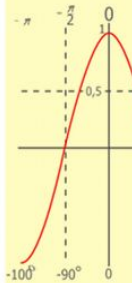
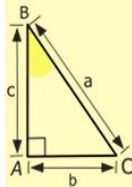


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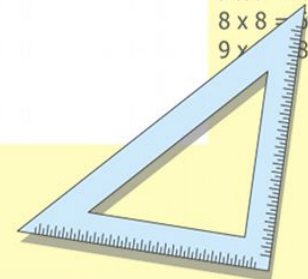
$$x = 70$$

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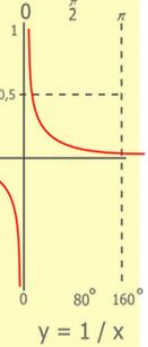
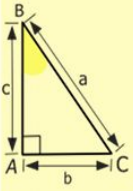
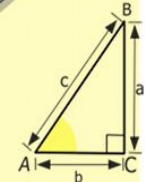
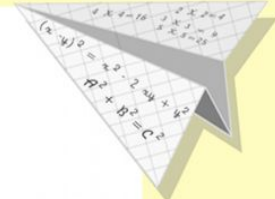
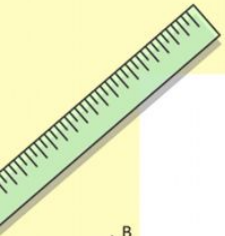
НАЙДИ ОШИБКУ:

$$(v-y)^2 = v-2vy+y^2$$

$$(7+c)^2 = 49-14c+c^2$$

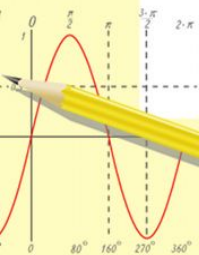
$$(p-10)^2 = p^2-20p+10$$

$$(2a+1)^2 = 4a^2+2a+1$$



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

- 2 x 2 = 4
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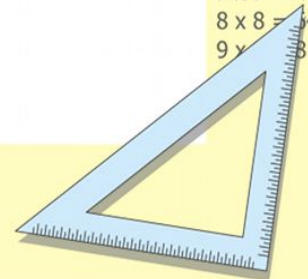


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

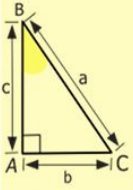
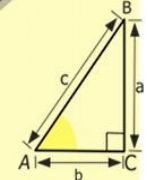
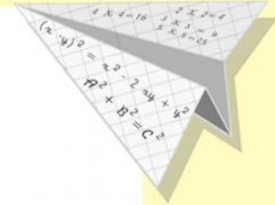
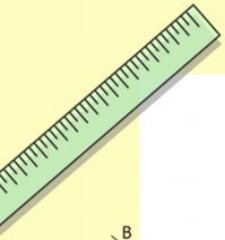
$$x = 70$$

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



Это интересно

$$71^2 = (70+1)^2 = 4900 + 140 + 1 = 5041$$



$$\begin{array}{r} 1 \\ \times 2500 \\ \hline 2500 \\ \times 42 \\ \hline 2100 \\ + 84 \\ \hline 105000 \end{array}$$

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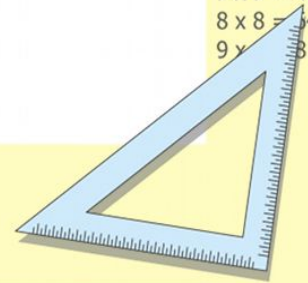
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$$(x+y)(x-y) = x^2 - y^2$$



Работа в тетрадях.

1. Разложить на множители:

а) $8a^3 - 8ab^2$ б) $4x^2 - 8x + 4$ в) $9 - a^2 - 2ab - b^2$

2. Верно ли равенство (устно)

а) $(0,04 - b)(0,04 + b) = 0,016 - b^2$

б) $1 + x + x^2 = (1 + x)^2$

в) $25x^8 + 40x^4y^2 + 16y^4 = (5x^4 + 4y^2)^2$

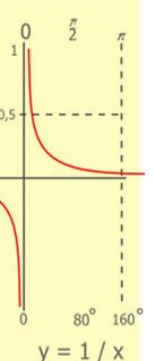
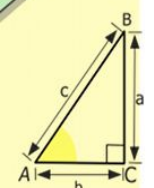
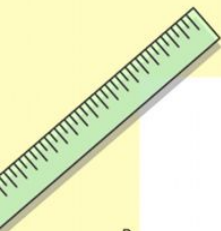
г) $(3 - a)(3 + a) = 3 - a^2$

3. Заполнить пропуски

а) $\dots - 16ab + \dots = (\dots - 1)^2$

б) $\dots - 4a^2 = (\dots)(3b + \dots)$

в) $(5x + \dots)^2 = \dots + \dots + 9$



1	2 5 00
x	4 2
	21 0
+	84
	105 0 00



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

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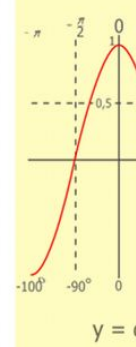
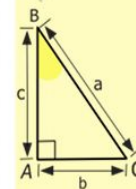
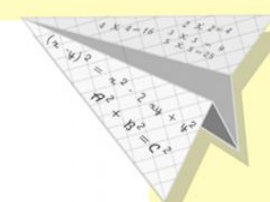
$$\sin 90^\circ = 1$$



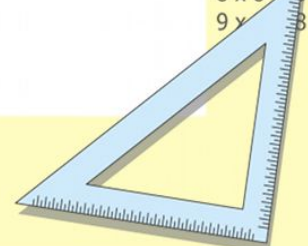
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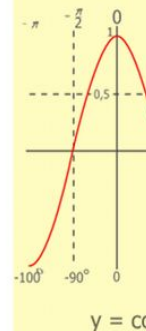
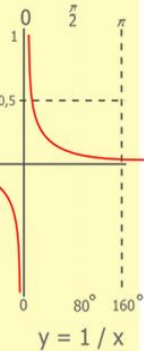
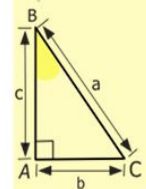
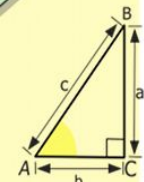
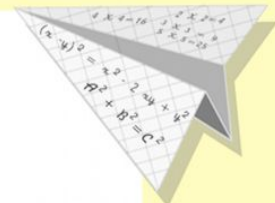
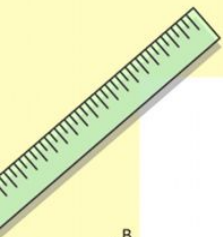
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Изучение нового материала

Работа с учебником

№934; №889 №909



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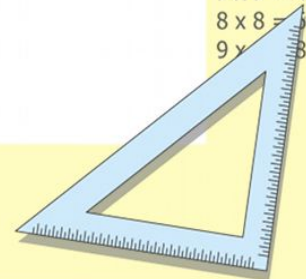
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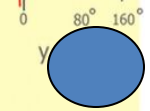
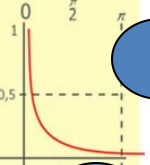
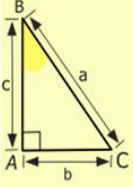
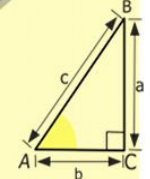
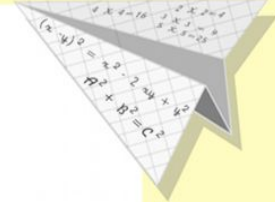
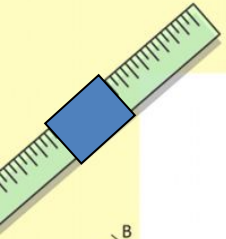
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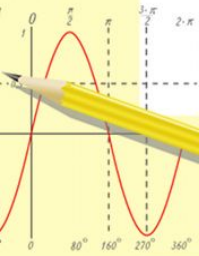
Зарядка для глаз



$y = \cos$

$$\begin{array}{r} 1\ 5\ 00 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 105\ 000 \end{array}$$

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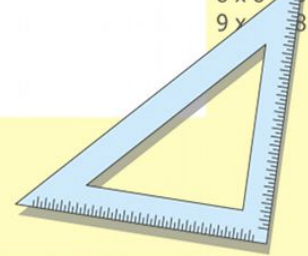
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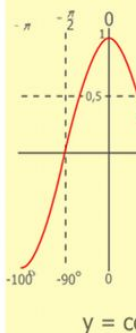
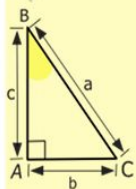
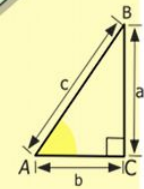
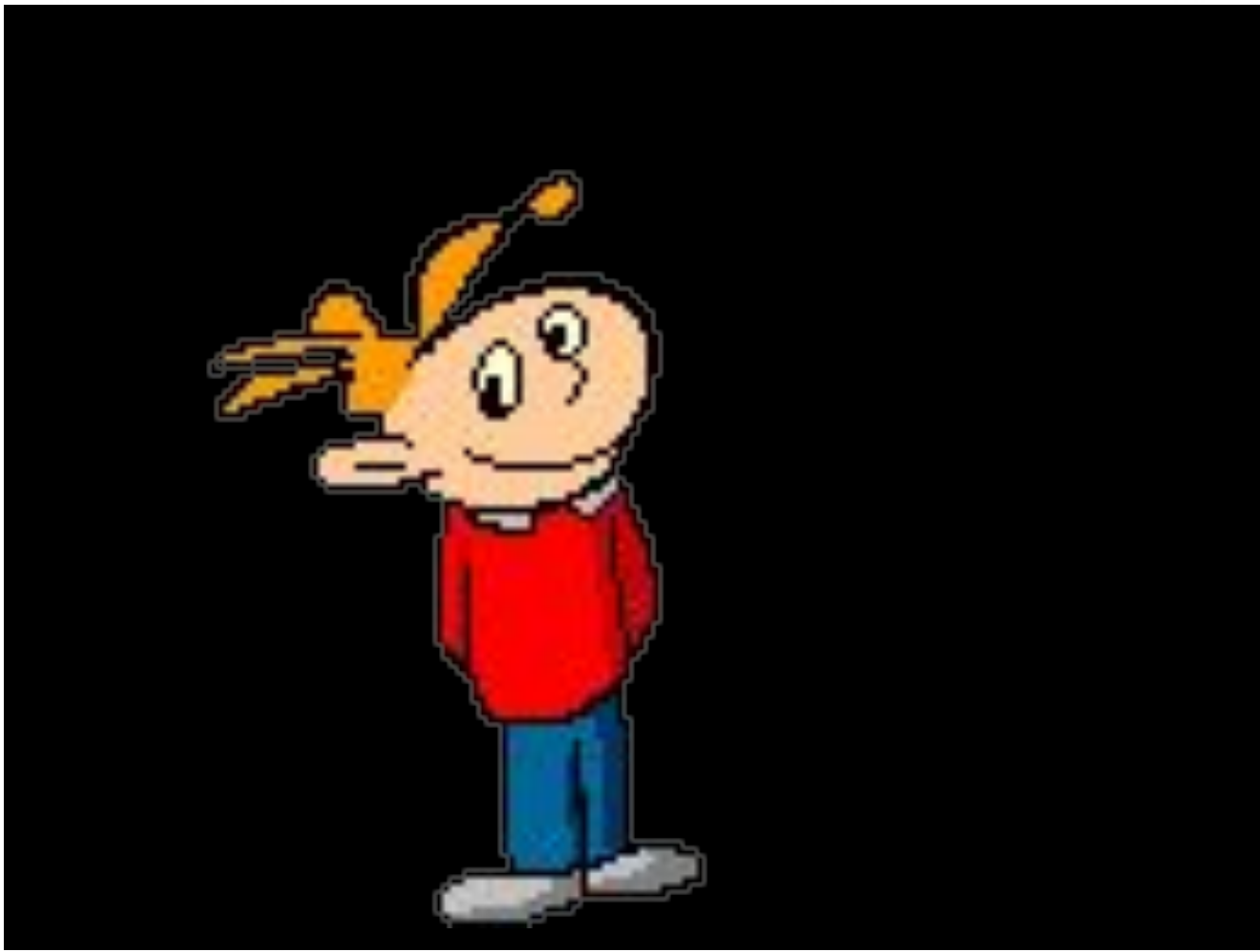
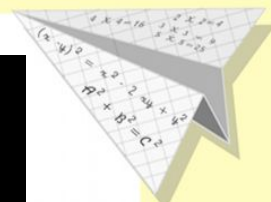


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

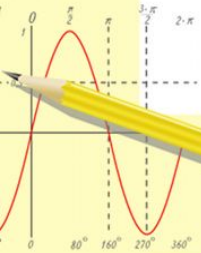
$$(x+y)(x-y) = x^2 - y^2$$





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

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



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

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

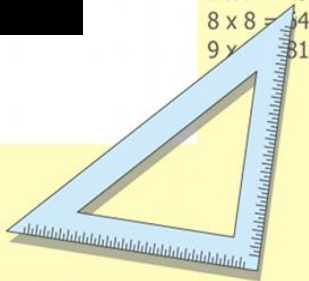
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$$(x+y)(x-y) = x^2 - y^2$$



Самостоятельная

Используя формулы разложи на множители

- $a^2 - b^2 = (a - b)(a + b)$
- $a^2 + 2ab + b^2 = (a + b)^2$
- $a^2 - 2ab + b^2 = (a - b)^2$
- $a^3 - b^3 = (a - b)(a^2 + ab + b^2)$
- $a^3 + b^3 = (a + b)(a^2 + ab + b^2)$

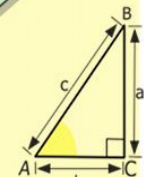
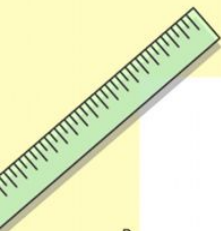
1. $25x^2 - 16$

2. $27y^3 - m^3$

3. $x^2 - 10x + 25$

4. $4 + 16x + 16x^2$

5. $125y^3 + 64$



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



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

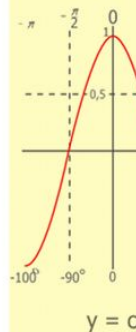
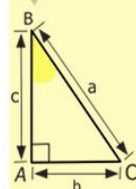
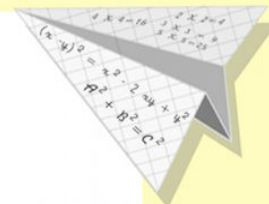
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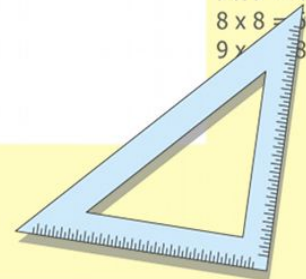
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Рефлексия



Остался
равнодушны
м

Понравилось
и заставило
задуматься

Не
понравилос
ь

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

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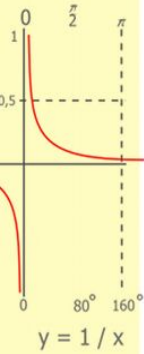
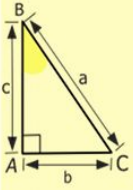
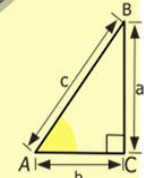
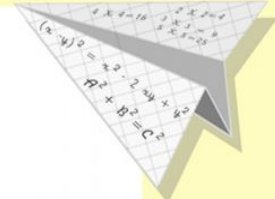
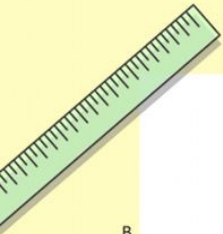
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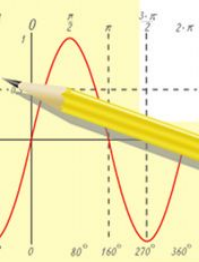
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Спасибо за



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урок!

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