

# Математик

а

# ПРОЕКТ

на тему:

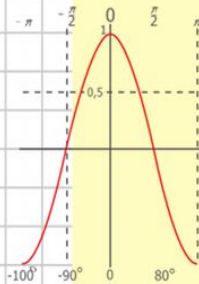
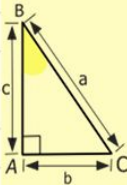
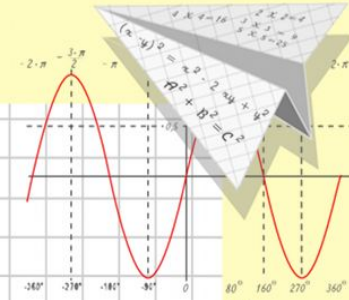
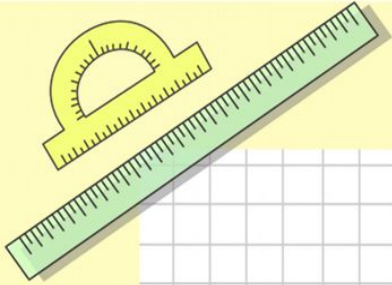
# «Окружность вокруг нас»

Выполнил:

Ученик 6 в класса  
МБОУ «Школа № 54»

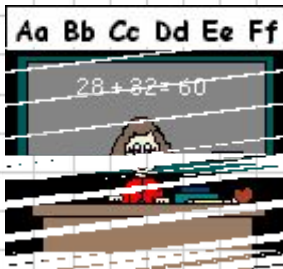
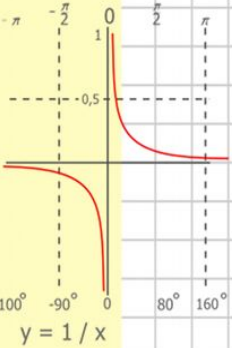
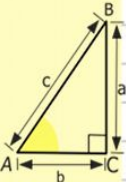
Исмагилов Султан  
Ильсурович

Руководитель проекта:  
Панухина Татьяна  
Викторовна



$y = \cos x$

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

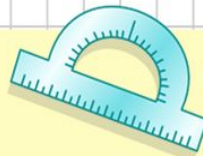


$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 10500 \end{array}$$

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

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

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

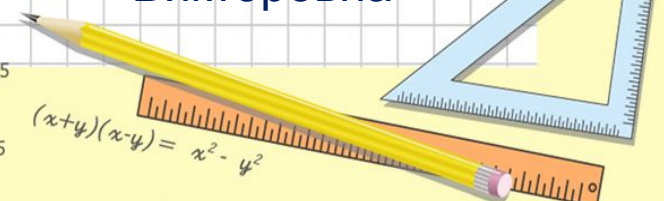


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

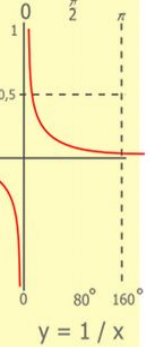
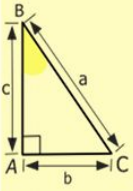
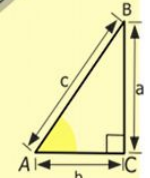
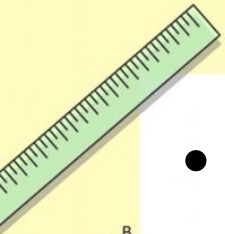
$$x = 70$$

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



# Цели и задачи:

- Узнать что такое окружность и где она используется.
- Расширить знания об окружности, изучить новые факты, связанные с окружностью.
- Усвоить материал и донести его учащимся.



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

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



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

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

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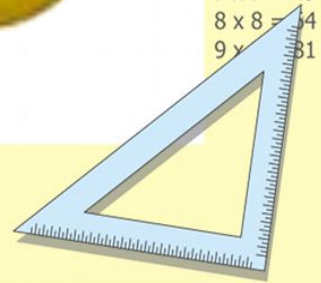


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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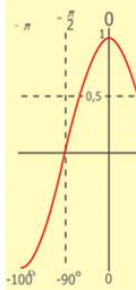
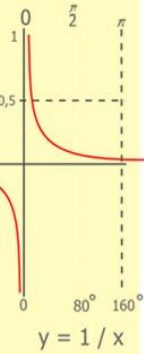
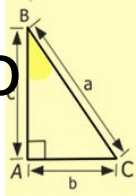
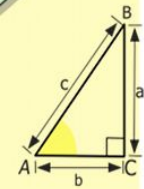
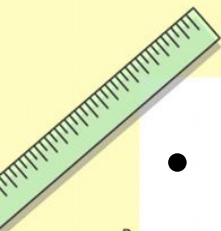
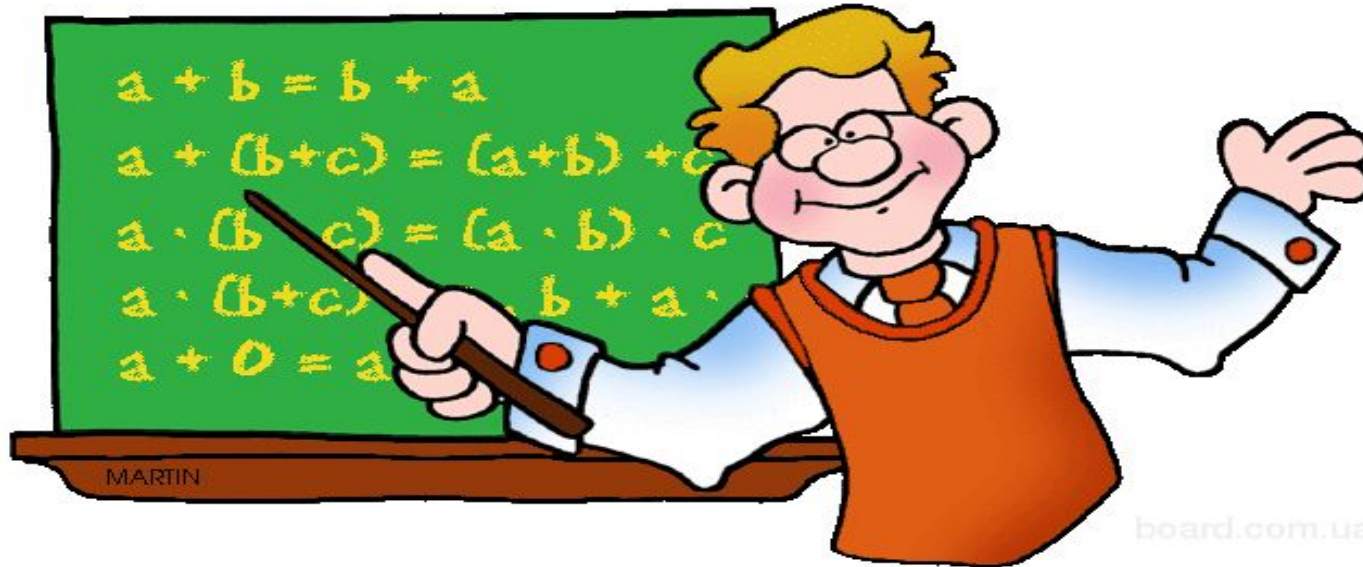
$$x = 70$$

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



# Актуальность:

- Окружность - это понятие, которое изучаются в школьном курсе математики с начальных классов, но недостаточно хорошо усваиваются. Поэтому особенно важно изучить применение окружностей в жизни.



$$\begin{array}{r} 1\ 2\ 5\ 0\ 0 \\ \times 4\ 2 \\ \hline 2\ 1\ 0 \\ + 8\ 4 \\ \hline 1\ 0\ 5\ 0\ 0\ 0 \end{array}$$

- $2 \times 2 = 4$
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$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

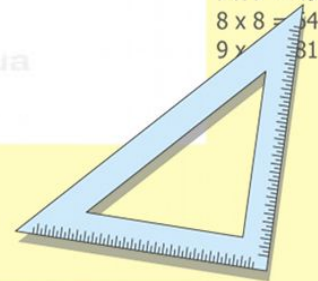
$$\sin 90^\circ = 1$$



$$\begin{cases} y = \sin 2y \\ x = 25y + 45 \end{cases}$$
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ x = 70 \end{cases}$$

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

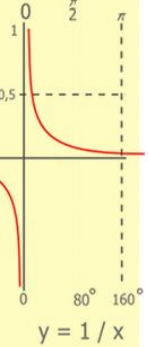
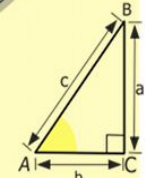
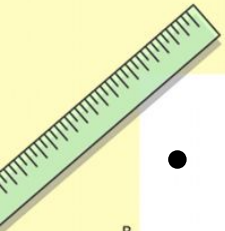
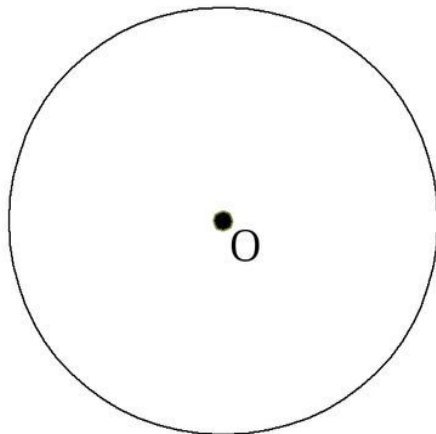
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# Что такое окружность?

- Окружность - это замкнутая линия, каждая точка которой равно удалена от центральной. Самым ярким примером окружности является обруч, который представляет собой замкнутое тело.

Окружность



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

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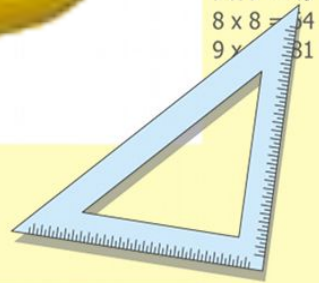
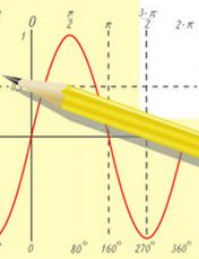
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$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

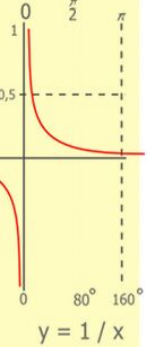
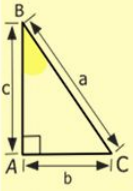
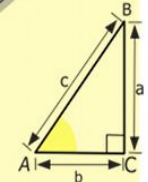
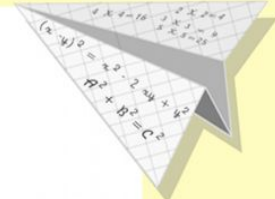
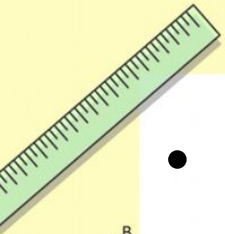
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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



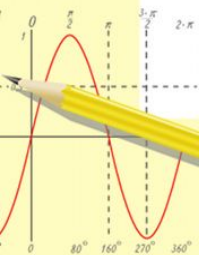
# Где же используется окружность вокруг нас?

- Гончарные изделия и гончарный круг
- Солнце ( то есть планеты)
- Формы плодов
- Колёса
- Орбиты планет
- В архитектуре
- В школе (особенно на уроке геометрии)
- Посуда (чашки, тарелки...)
- Мебель



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

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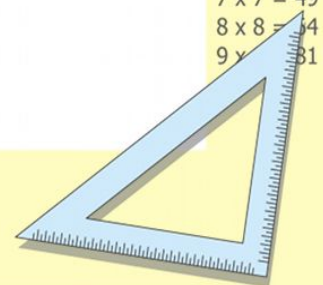
$$\sin 90^\circ = 1$$



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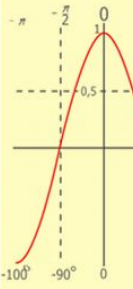
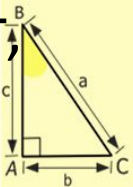
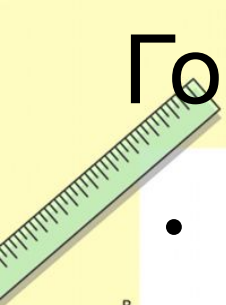


# Гончарные изделия и гончарный круг.

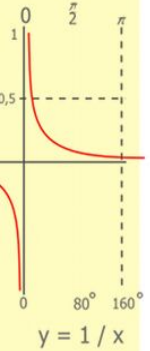
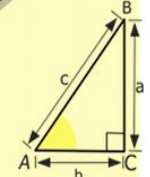
- Горшки, кувшины, крынки,
- Ты почести им спинки,
- И губкой приголубь их,
- Родится новый стих.



- В нашей сложной круговерти  
Оглянитесь-ка вокруг,  
Вот уж несколько столетий  
Крутится гончарный круг.



- $2 \times 2 = 4$
- $3 \times 3 = 9$
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$$\begin{array}{r} 1 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 10500 \end{array}$$



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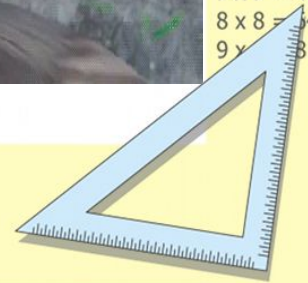
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$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

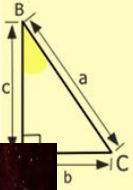
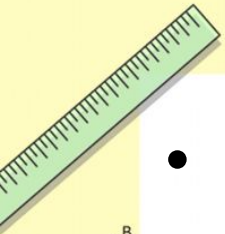
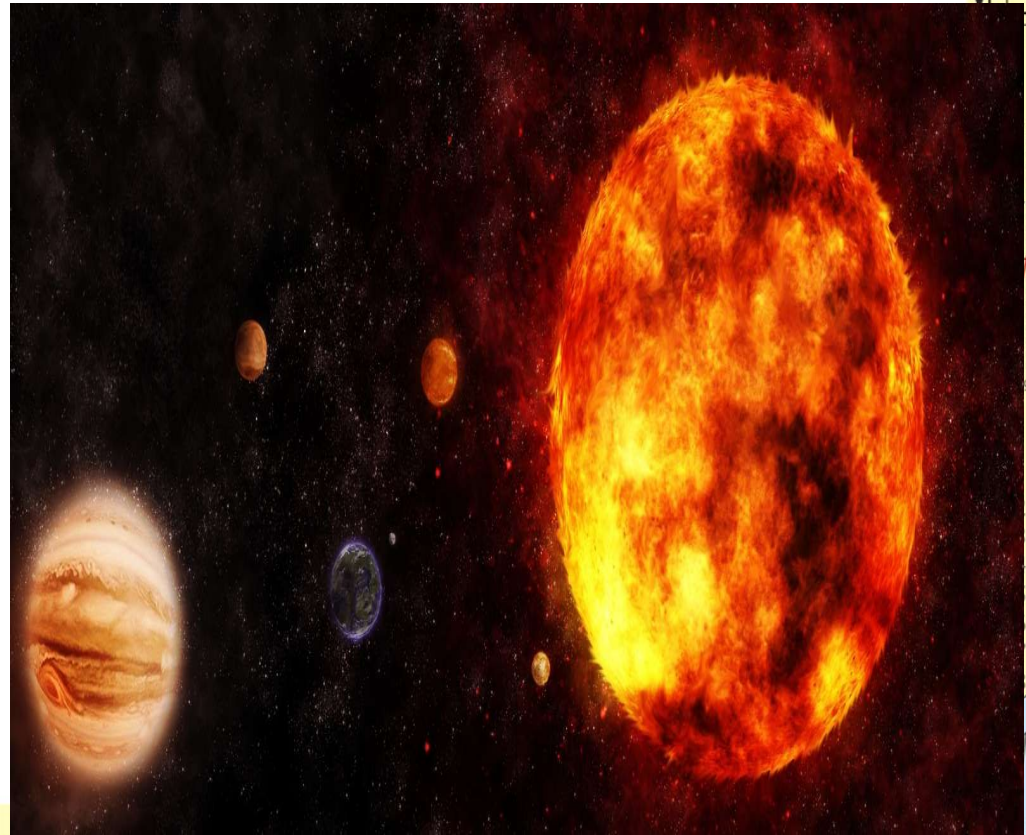
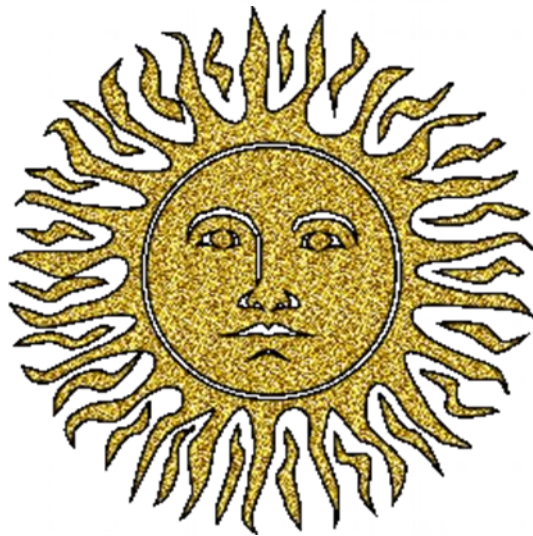
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$$(x+y)(x-y) = x^2 - y^2$$



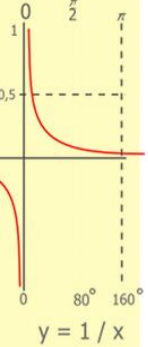
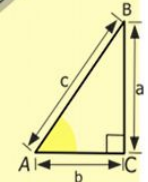
# Солнце и планеты.

- В древние времена люди считали круг символом солнца.
- Планеты своей формой похожи на окружность!



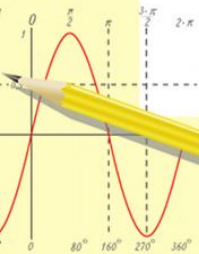
$$y = \cos$$

- = 4
- = 9
- = 16
- = 25
- = 36
- = 49
- = 64
- = 81



$$y = 1/x$$

$$\begin{array}{r} 1\ 2\ 5\ 00 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 105\ 000 \end{array}$$



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



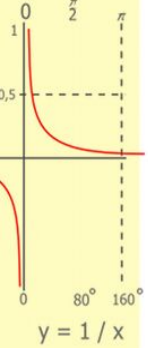
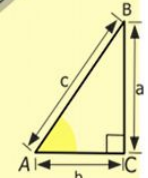
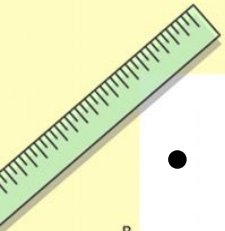
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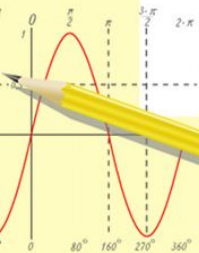


# Формы плодов и мебель.

- Формы у плодов природных в большинстве своем круглы, и для встреч международных стандартов



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



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

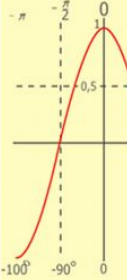
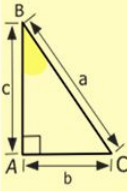
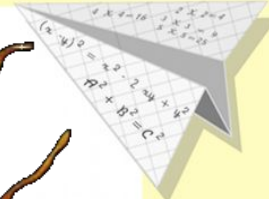
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$$\sin 90^\circ = 1$$



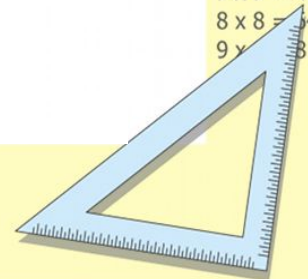
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$$(x+y)(x-y) = x^2 - y^2$$



$$y = \cos$$

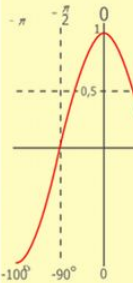
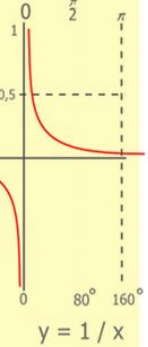
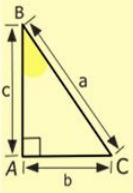
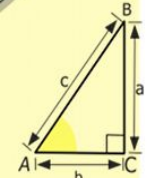
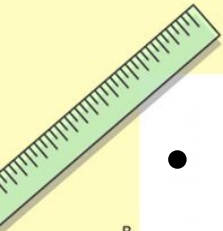
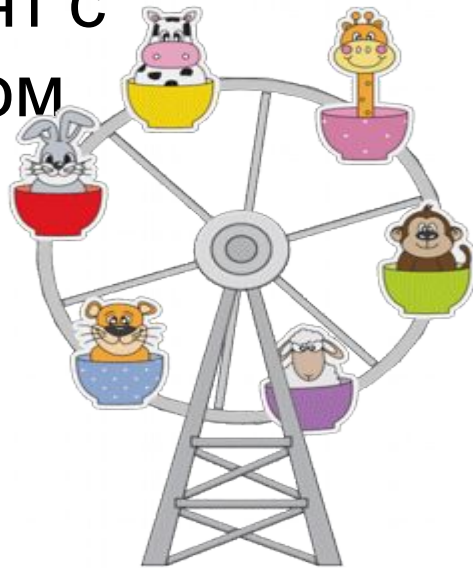
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# Колёса

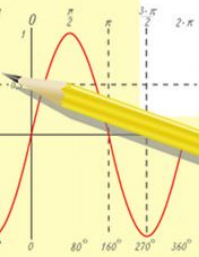
- А возьмите круг вопросов Тех, кто с техникой знаком, Только круглые колеса Нас прокатят с ветерком



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

$y = \cos$

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



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

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

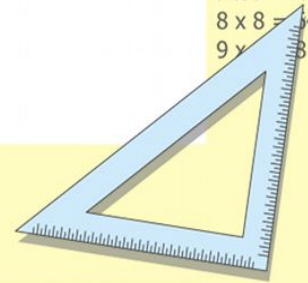
$\sin 90^\circ = 1$



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

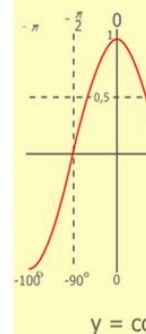
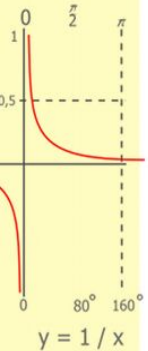
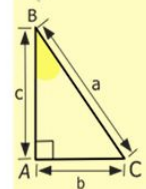
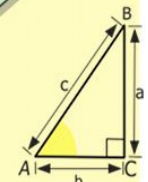
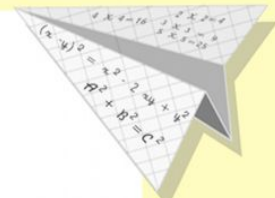
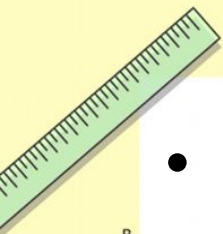
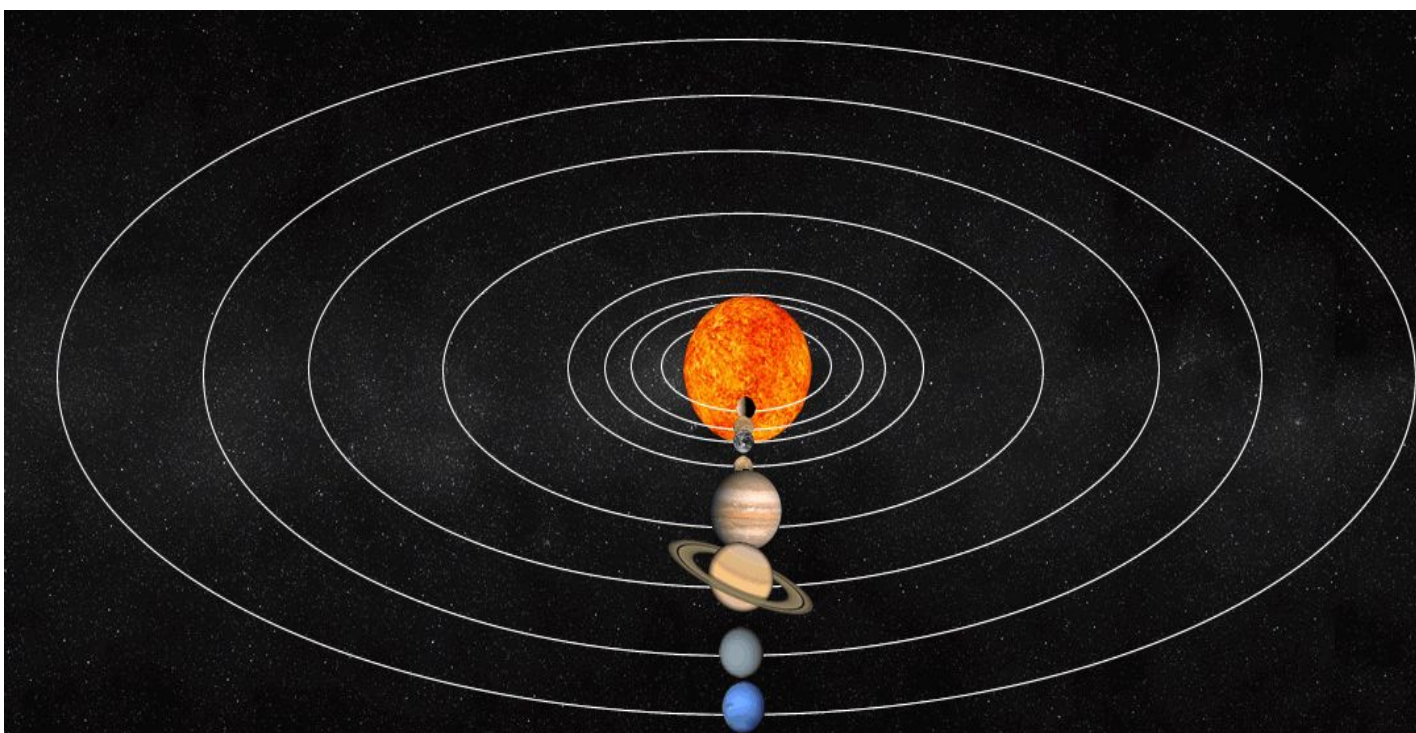
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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



# Орбиты планет.

- Орбиты планет представляют из себя окружность!



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

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



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

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

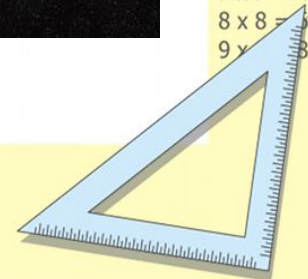
$$\sin 90^\circ = 1$$



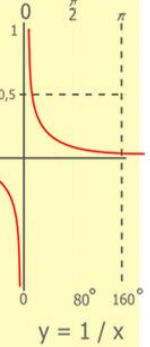
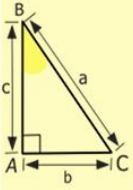
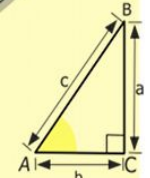
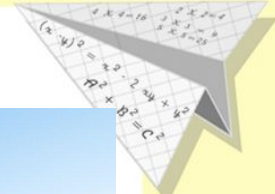
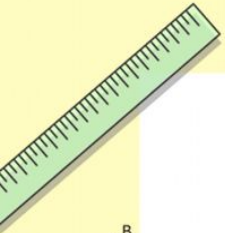
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

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



# Окружность в архитектуре.



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

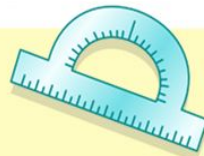
- $2 \times 2 = 4$
- $3 \times 3 = 9$
- $4 \times 4 = 16$
- $5 \times 5 = 25$
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$$\frac{a}{A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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

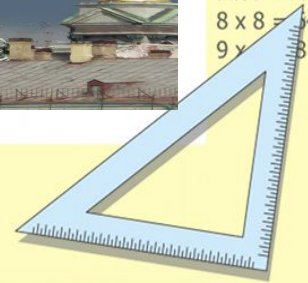
$$\sin 90^\circ = 1$$



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

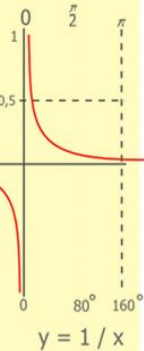
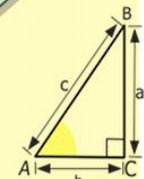
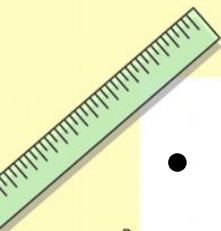
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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



# В школе.

- В школе тоже повседневно дети встречаются окружности, особенно на уроках геометрии и математики.



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



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

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

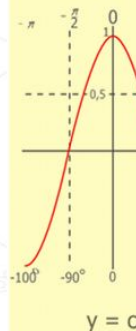
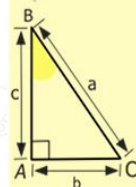
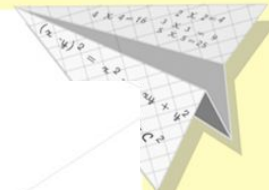
$$\sin 90^\circ = 1$$



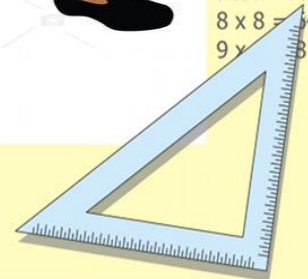
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

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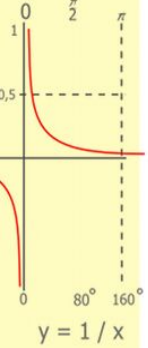
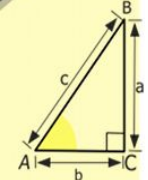
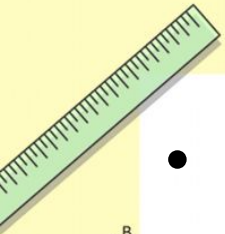


$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \\ 9 \times 9 = 81 \end{array}$$

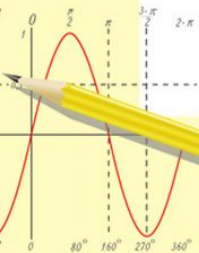


# Посуда

- Большинство посуды состоит из окружностей!



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



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

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

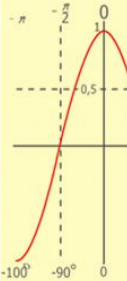
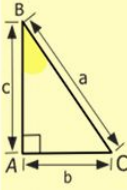
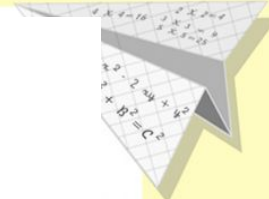
$$\sin 90^\circ = 1$$



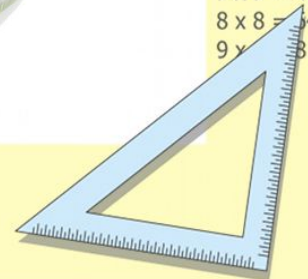
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

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

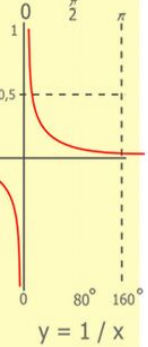
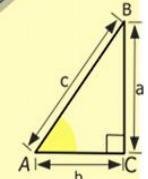
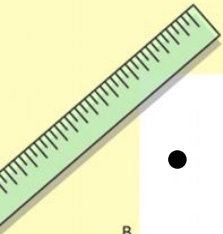


$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \\ 9 \times 9 = 81 \end{array}$$

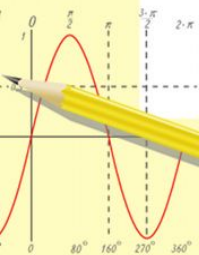


# Вывод:

- Каждый прожитый день своей жизни мы встречаем окружность повсюду. Из этого мы можем сделать вывод: Окружностей в нашем мире немеренное количество. И у каждой окружности есть свои применения.



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



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

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

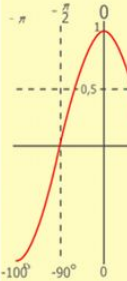
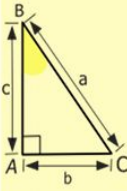
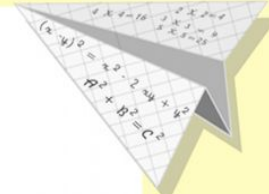
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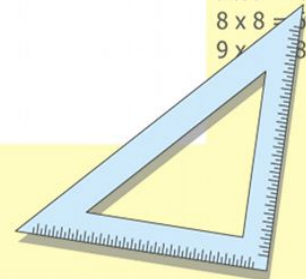
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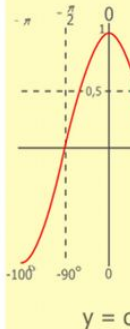
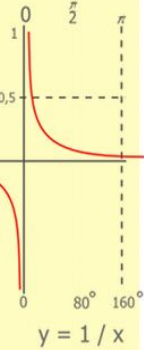
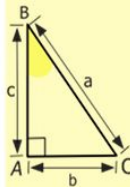
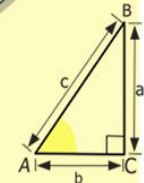
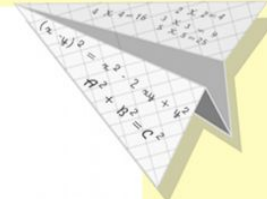
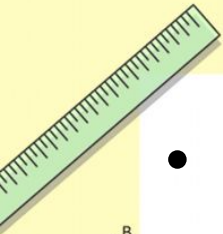
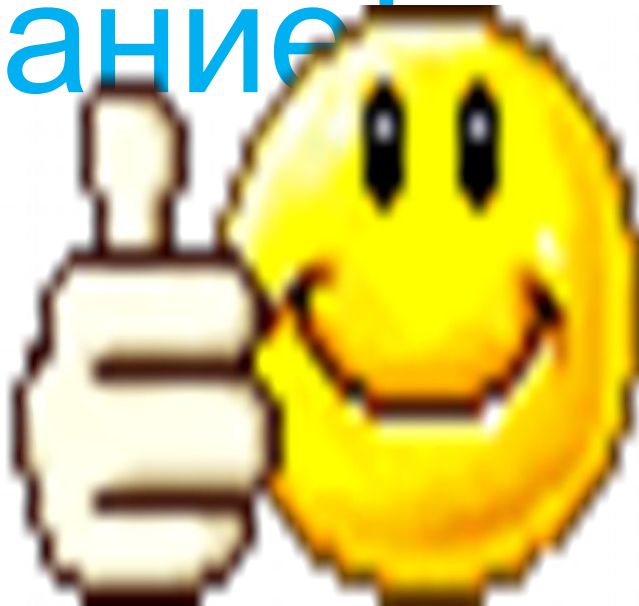


$$y = \cos$$

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• Спасибо за  
внимание!



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

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