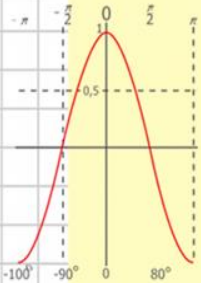
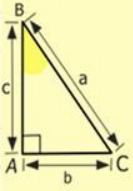
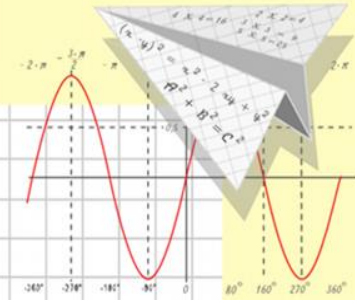
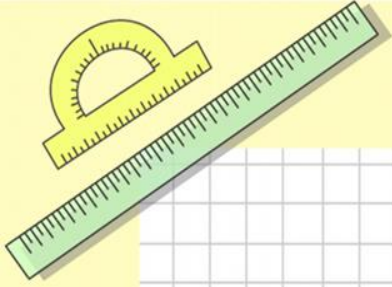


Математика

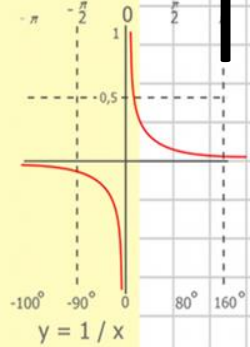
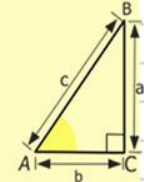
Простые тригонометрические уравнения

Подготовил Колабеков А.



$$y = \cos x$$

- 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



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

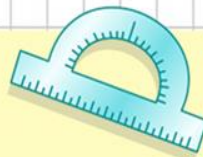


$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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



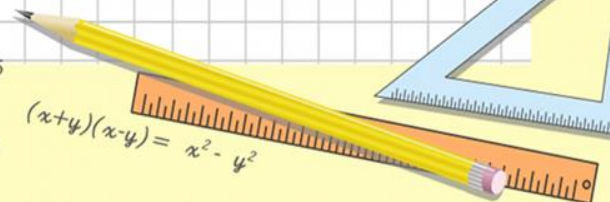
$$\sin 90^\circ = 1$$



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

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

$$x = 70$$



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

Уравнения вида $\sin x = a$

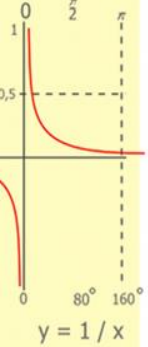
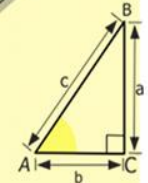
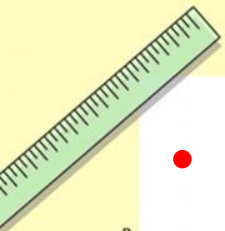
$$x = (-1)^k \cdot \arcsin a + \pi k, n \in \mathbb{Z}$$

Пример:

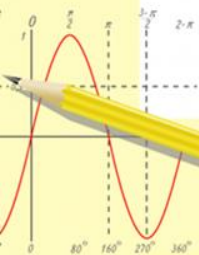
$$\sin x = \frac{1}{2}$$

Решение:

$$x = (-1)^k \frac{\pi}{6} + \pi k, k \in \mathbb{Z}$$



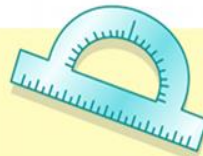
$$\begin{array}{r} \frac{1}{2} 500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 105000 \end{array}$$



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

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

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

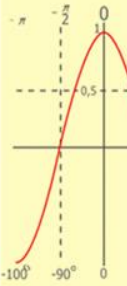
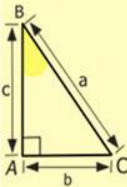
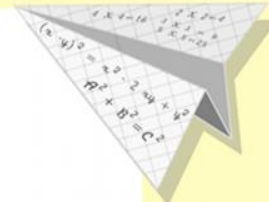


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

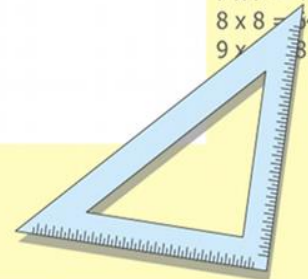
$$\underline{x = 70}$$

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



y = cos

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



Уравнение вида $\cos x = a$

$$x = \pm \arccos a + 2\pi n, n \in \mathbb{Z}$$

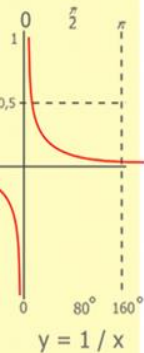
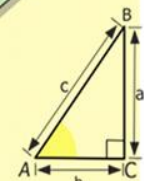
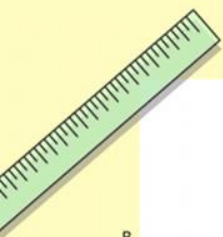
Пример:

$$\cos x = \frac{1}{2}$$

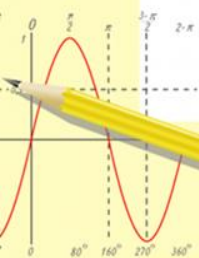
Решение:

$$x = -\frac{\pi}{3} + 2\pi k, k \in \mathbb{Z}$$

$$x = \frac{\pi}{3} + 2\pi k, k \in \mathbb{Z}$$



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



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

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

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

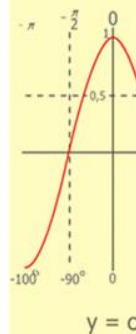
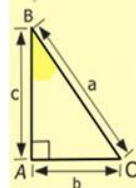
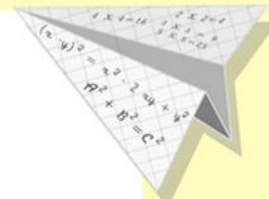


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

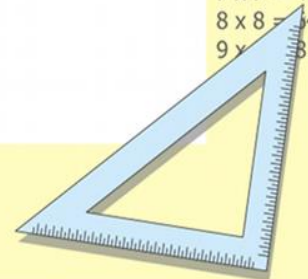
$$\begin{cases} y = 1 \\ x = 25 + 45 \end{cases}$$

$$x = 70$$

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



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



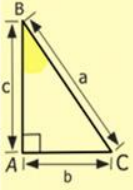
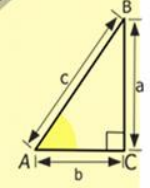
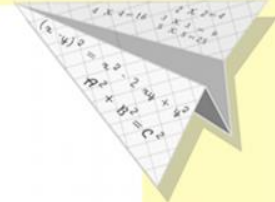
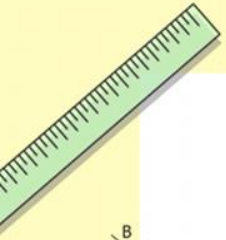
Уравнения вида

$\operatorname{tg} x = a$

$$x = \operatorname{arctg} a + \pi n, n \in \mathbb{Z}$$

Пример: $\operatorname{tg} x = 1$

Решение: $x = \frac{\pi}{4} + \pi k, k \in \mathbb{Z}$



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

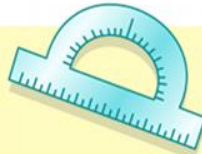
- 2 x 2 = 4
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$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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

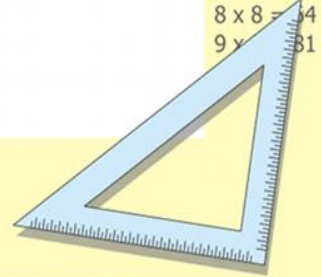
$$\sin 90^\circ = 1$$



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

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

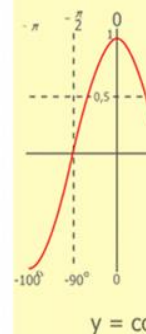
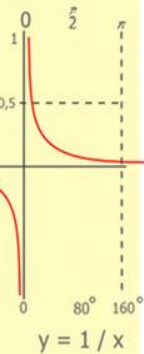
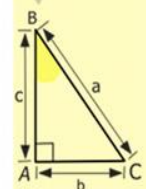
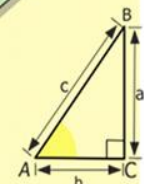
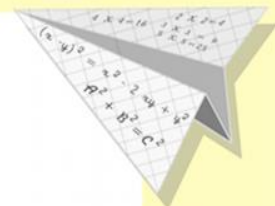
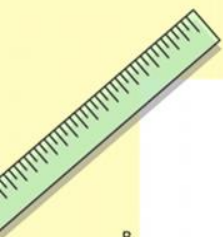
$$(x+y)(x-y) = x^2 - y^2$$



Уравнения вида

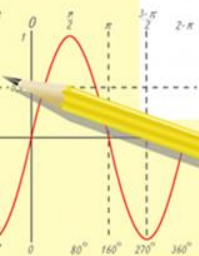
$$\text{ctg } x = a$$

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

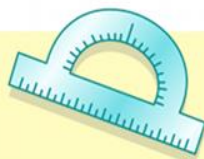
- $2 \times 2 = 4$
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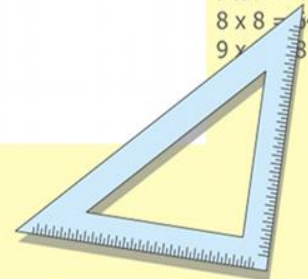
$$\sin 90^\circ = 1$$



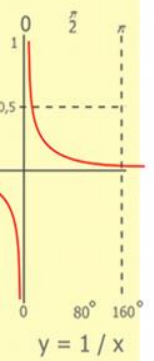
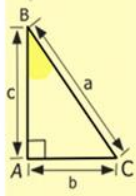
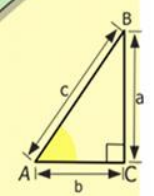
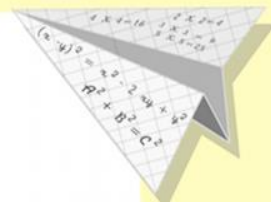
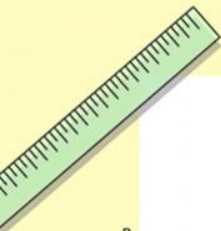
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$$(x+y)(x-y) = x^2 - y^2$$

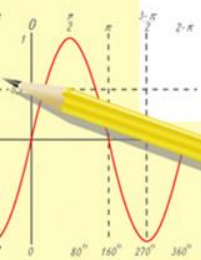


Спасибо за внимание!



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

- $2 \times 2 = 4$
- $3 \times 3 = 9$
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