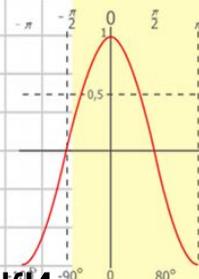
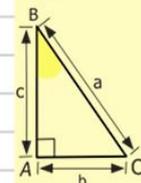
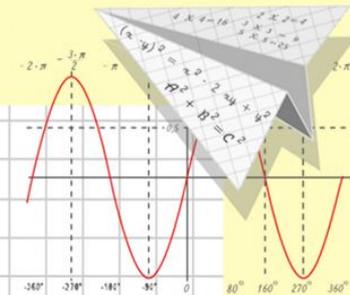
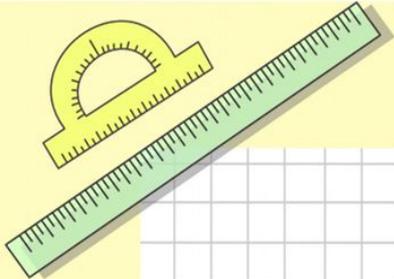


Математик

а

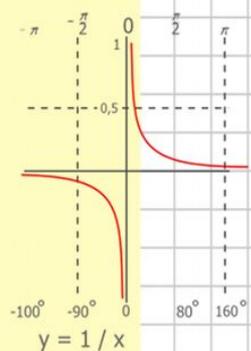
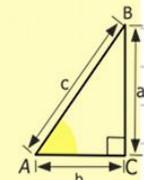
Обобщающий урок. Решение уравнений.

Учитель математики
МОУ «БООШ»
Киселёва О.П.



$y = \cos x$

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



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

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

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

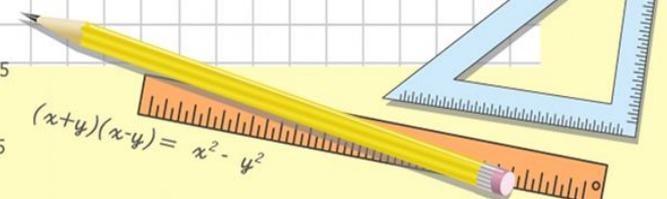
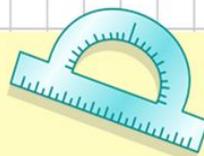
$$\sin 90^\circ = 1$$

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

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

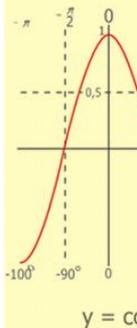
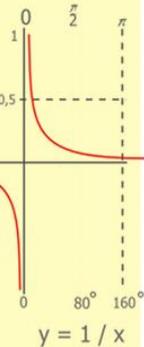
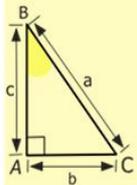
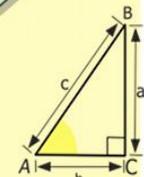
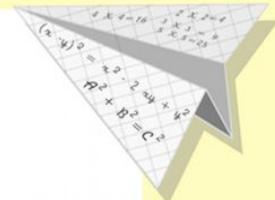
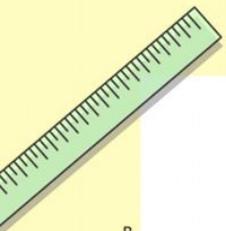
$$x = 70$$

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



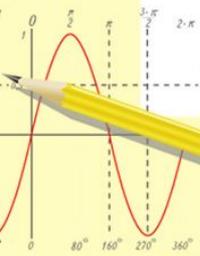
Цели урока:

1. формировать умение решения уравнений способом переноса слагаемых из одной части в другую, изменив при этом их знаки;
2. ввести определение линейного уравнения;
3. формировать умение и навыки решать линейные уравнения.



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

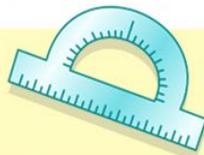
$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \\ 9 \times 9 = 81 \end{array}$$



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

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

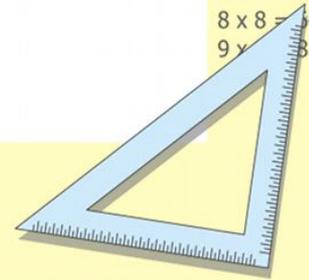
$$\sin 90^\circ = 1$$



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

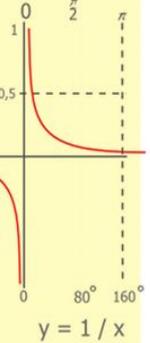
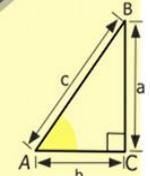
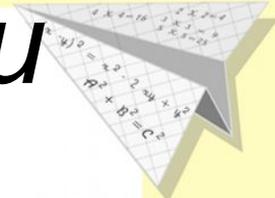
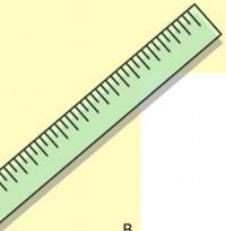
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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

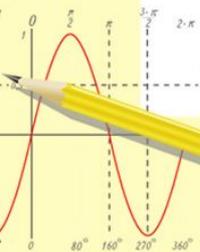


Мухаммед аль-Хорезми

- В истории арифметики и алгебры большое значение имеют труды Мухаммеда аль-Хорезми
- (т.е. уроженец Хорезма в Узбекистане, 783 – 850 гг.).
- Он написал книгу, посвященную решению уравнений, которая называлась «Китаб аль-джабр валь мукабала», т.е. «Книга о восстановлении и противопоставлении».



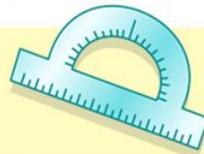
$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 2100 \\ + 8400 \\ \hline 105000 \end{array}$$



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

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

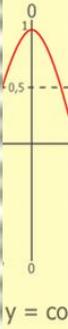
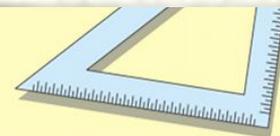
$$\sin 90^\circ = 1$$



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

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

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



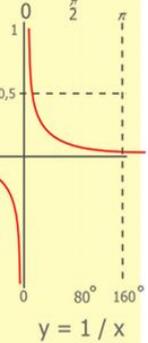
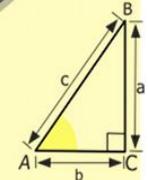
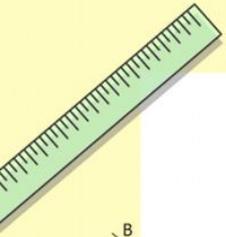
- = 4
- = 9
- = 16
- = 25
- = 36
- = 49
- = 64
- = 81

Найди лишнее.

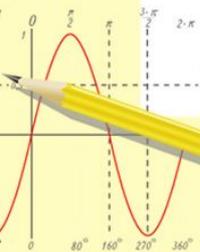
$$2a - 3a + 5a;$$

$$-7x + 4x - 3x;$$

$$y - 8y + 4y$$



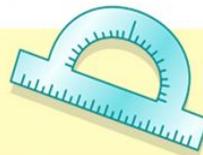
$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 2100 \\ + 840 \\ \hline 105000 \end{array}$$



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

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

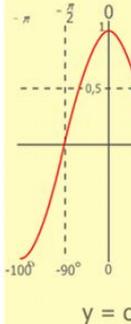
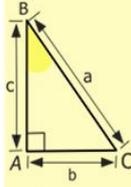
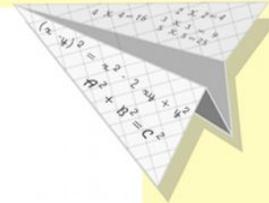
$$\sin 90^\circ = 1$$



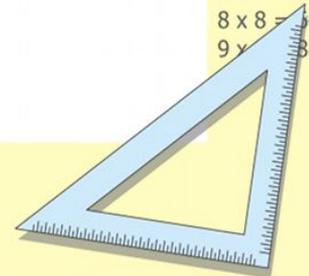
$$\begin{cases} y = \sin 90 \\ x = 25 + 45 \end{cases}$$

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

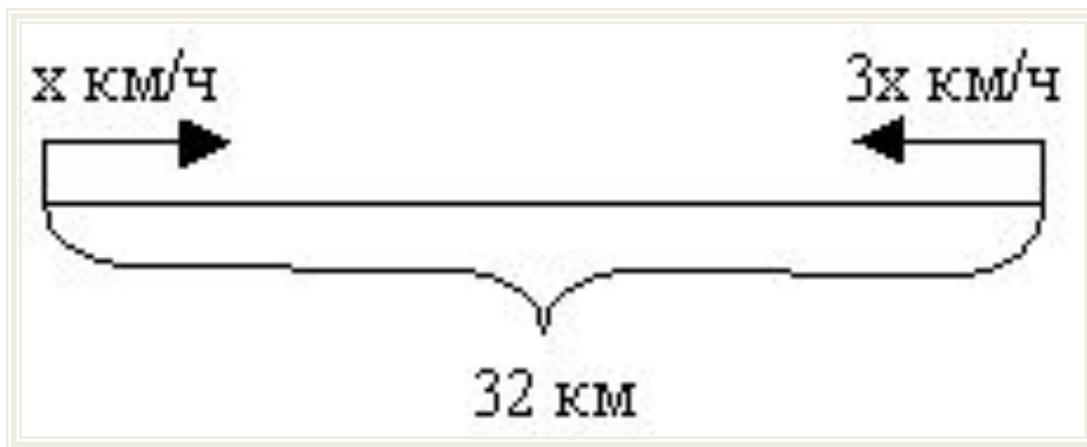
$$(x+y)(x-y) = x^2 - y^2$$



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



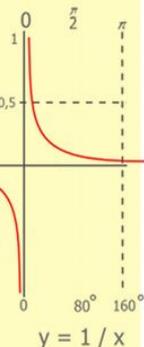
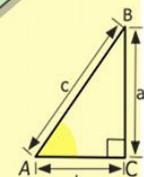
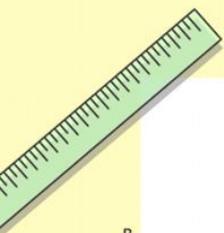
Составь задачу по схеме.



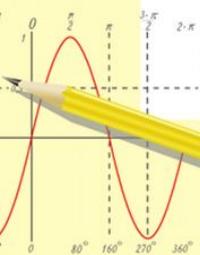
$t = 24.$

$$2x + 6x = 32$$

Ответ: 4 км/ч; 12 км/ч.



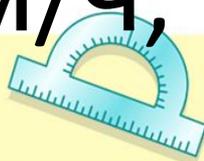
$$\begin{array}{r} 1 \\ \times 2500 \\ \hline 2500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 105000 \end{array}$$



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

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

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

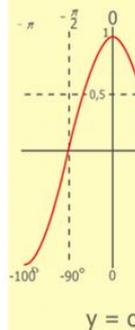
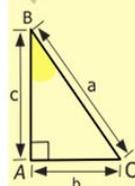
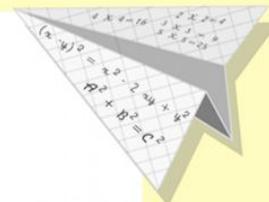


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

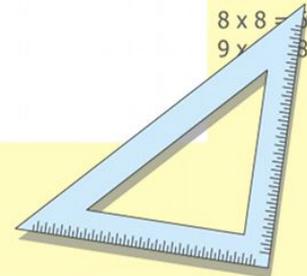
$$\begin{cases} y = 1 \\ x = 25 + 45 \end{cases}$$

$$x = 70$$

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



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



Реши уравнения:

В-I

$$2x = 2,$$

$$3y - 2 = 25,$$

$$5a - 2a = 24,$$

$$42 - 3x = 21.$$

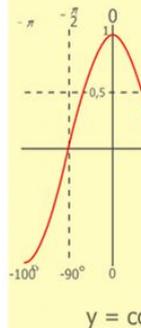
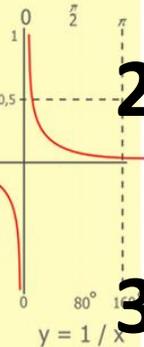
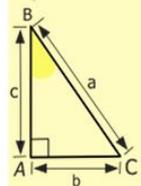
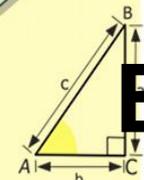
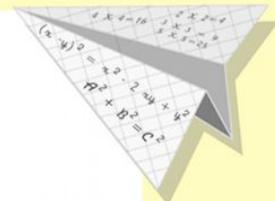
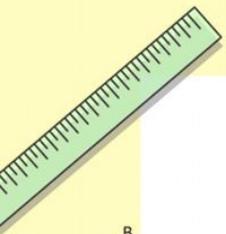
В-II

$$7x = 7$$

$$2y + 3 = 21,$$

$$11b - 3b = 72,$$

$$56 + 5x = 86.$$



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

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



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

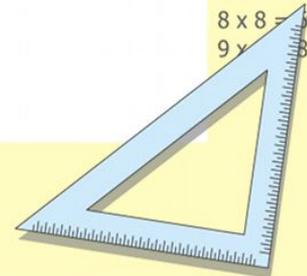
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

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

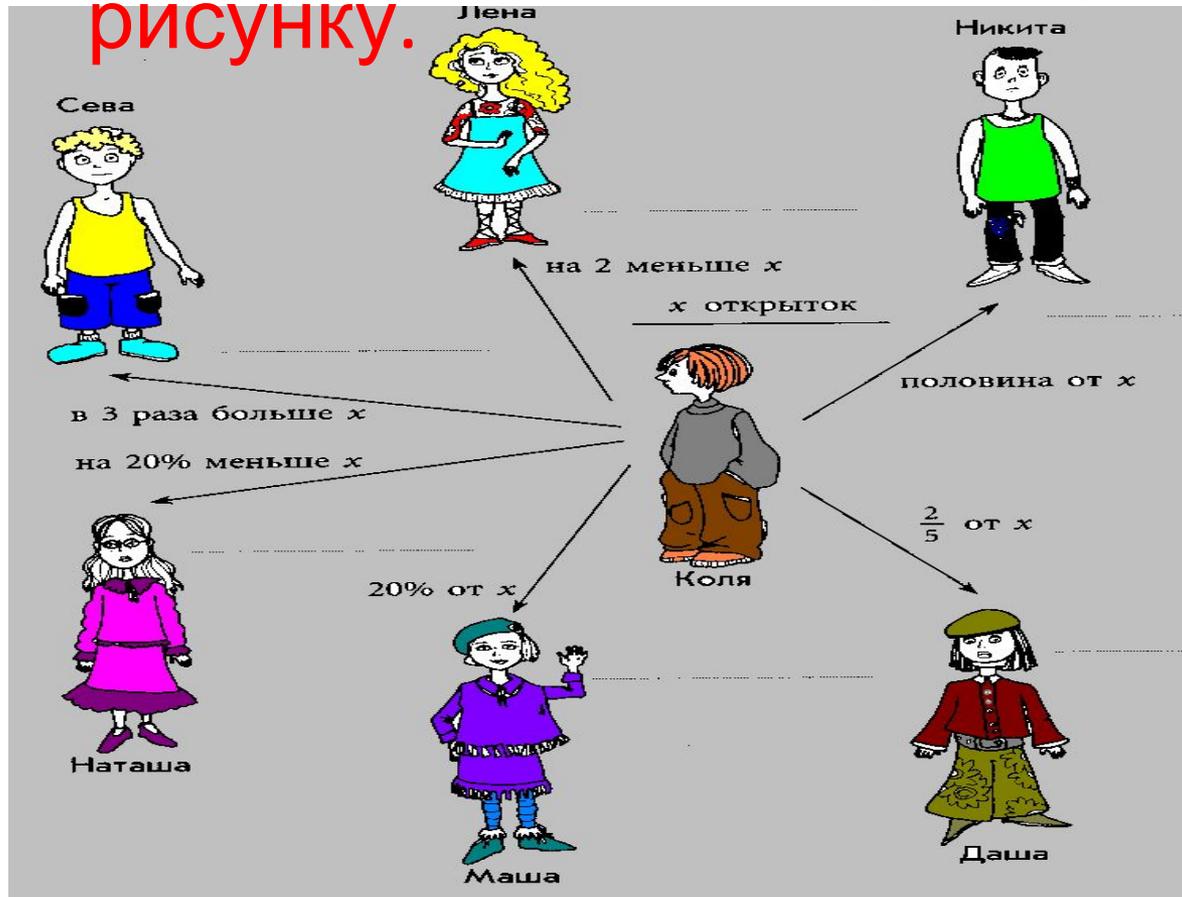


$$\begin{cases} \sin 90^\circ = 1 \\ x = 25y + 45 \\ y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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

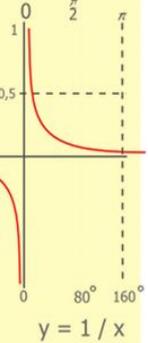
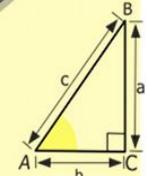
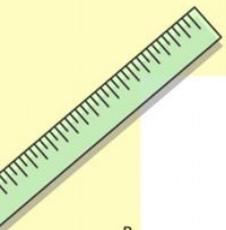


Составь задачу по рисунку.

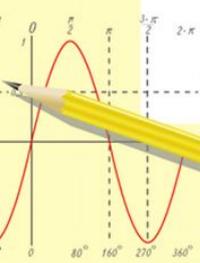


Составьте равенства, зная, что

1. У Севы открыток больше, чем у Коли, на 40;
2. Если Коля отдаст Никите 5 открыток, то у них станет поровну.



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

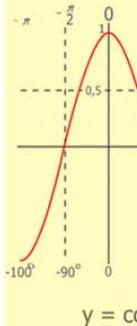
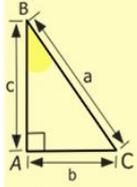
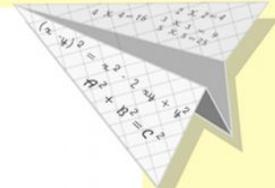


$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

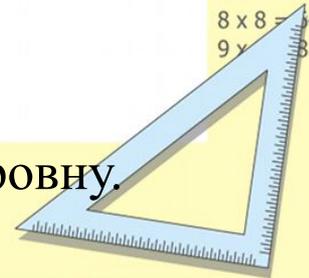


$$\begin{cases} x=25y+45 \\ y=1 \\ x=25+45 \\ x=70 \end{cases}$$

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



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

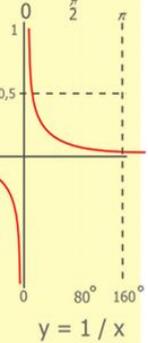
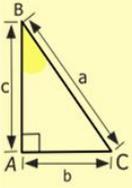
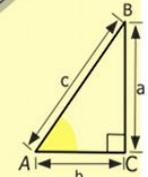
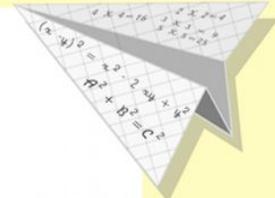
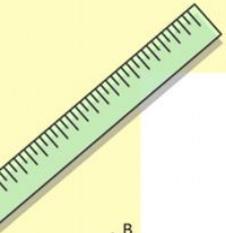


Выполни тест!

1. В одном шкафу было в 4 раза меньше книг, чем в другом. Когда в первый шкаф положили 17 книг, а со второго взяли 25, то в обоих шкафах книг стало поровну. Сколько книг было в каждом шкафу сначала?

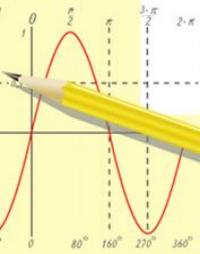
Пусть x число книг в 1 шкафу. Какое из уравнений соответствует условию задачи?

- A. $x + 17 = x : 4 - 25$** **Б. $x + 17 = 4x - 25$**
- В. $x - 25 = x : 4 + 17$** **Г. $4x - 17 = x + 25$**



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

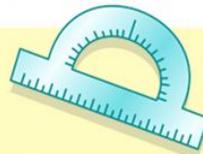
$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \\ 9 \times 9 = 81 \end{array}$$



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

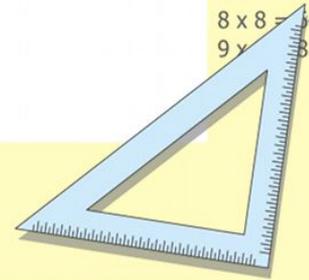


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

$$x = 70$$

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

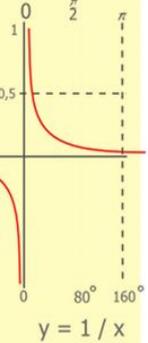
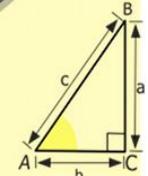
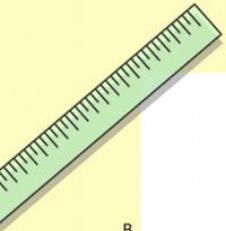


Решай дальше!

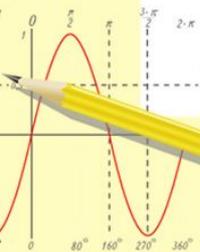
2. В двух коробках было поровну конфет. После того, как из первой коробки взяли 10 конфет, а из другой – 28 конфет, в первой коробке стало в 4 раза больше, чем во второй. Сколько конфет было в каждой коробке первоначально?

Пусть x число конфет в каждой коробке первоначально. Какое из уравнений соответствует условию задачи?

- А. $4(x - 10) = x - 28$** **Б. $4x - 10 = x - 28$**
- В. $x - 10 = 4x - 28$** **Г. $x - 10 = 4(x - 28)$**



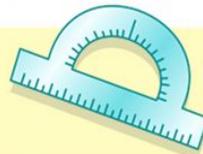
$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 2100 \\ + 840 \\ \hline 105000 \end{array}$$



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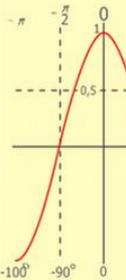
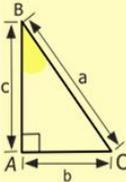
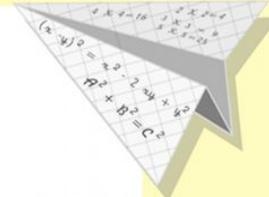


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

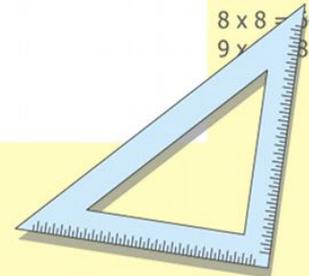
$$\begin{cases} y = 1 \\ x = 25 + 45 \end{cases}$$

$$x = 70$$

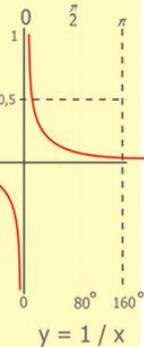
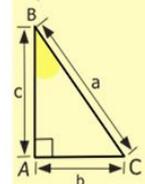
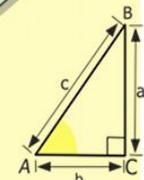
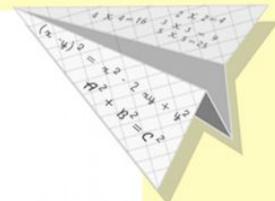
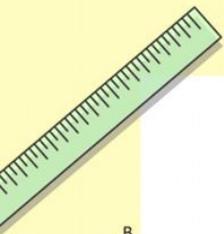
$$(x+y)(x-y) = x^2 - y^2$$



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Молодец!



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

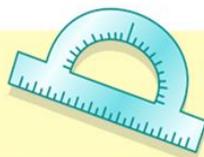
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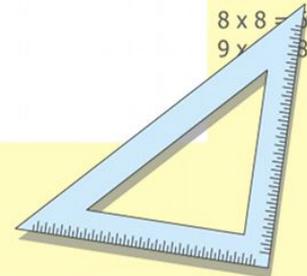
$$\sin 90^\circ = 1$$



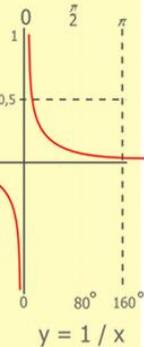
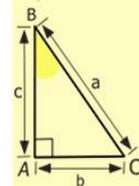
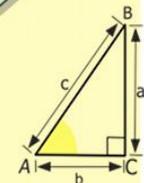
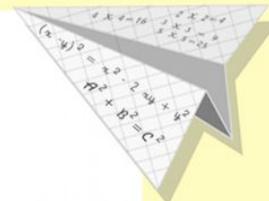
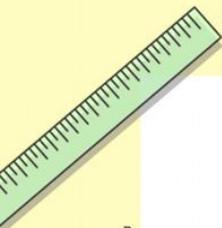
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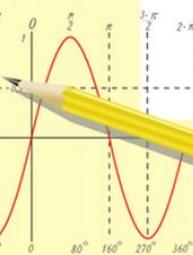


Подумай еще!



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

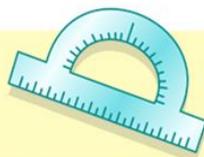
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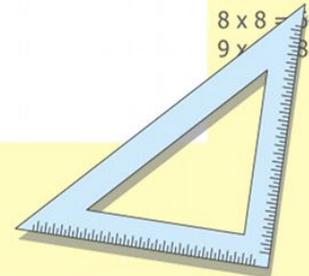
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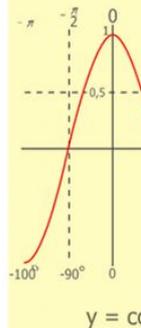
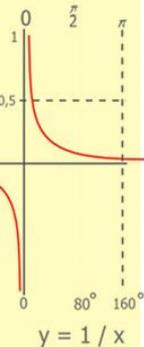
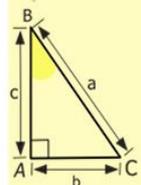
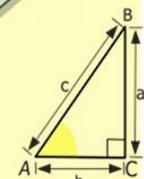
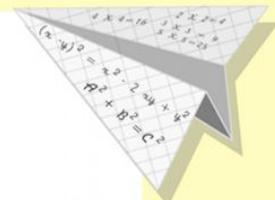
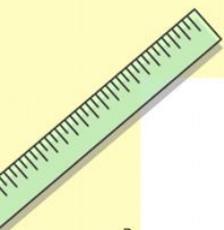
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Ответить на вопросы.

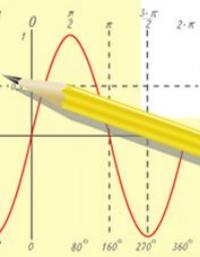
1. Обе части уравнения умножили на число не равное нулю. Изменились ли корни данного уравнения?
2. Обе части уравнения разделили на одно и то же число, отличное от нуля. Изменились ли корни данного уравнения?
3. Сформулировать правила переноса слагаемых из одной части уравнения в другую.
4. Какие уравнения называют линейными?

ИТОГ УРОКА.



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

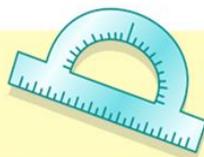
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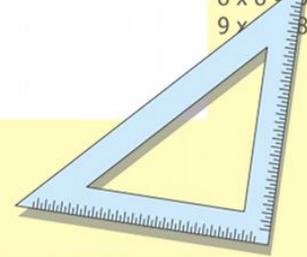
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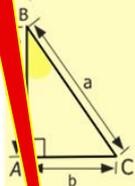
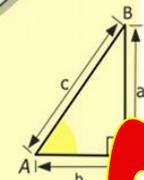
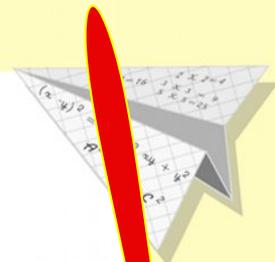
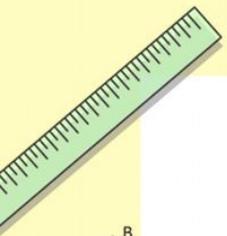


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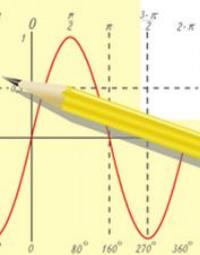
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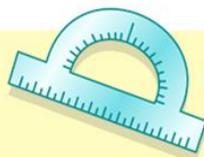
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