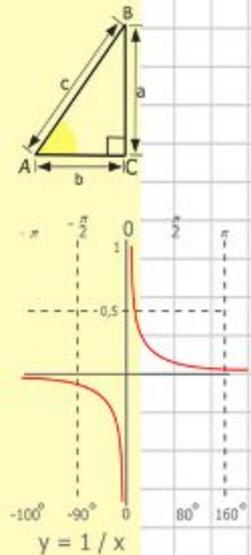
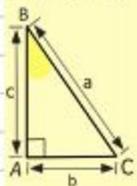
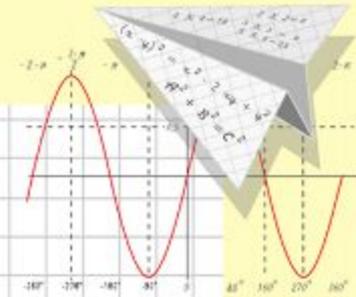
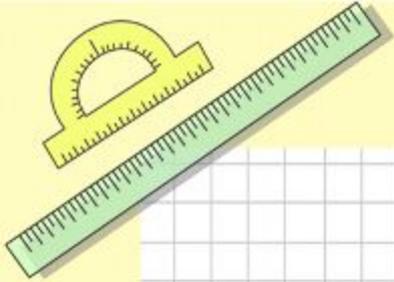


Математик

а

«Устный счет как способ
повышения вычислительной
культуры обучающихся»



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

- 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

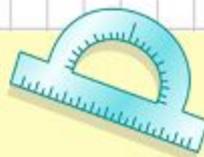


$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

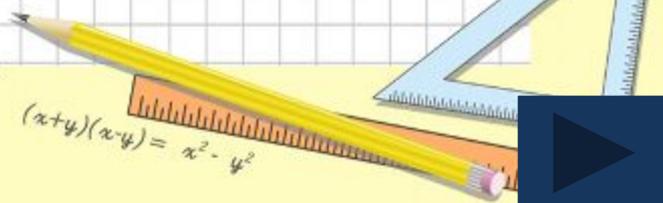
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$



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



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



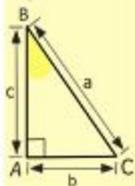
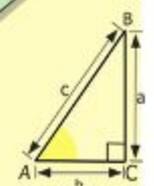
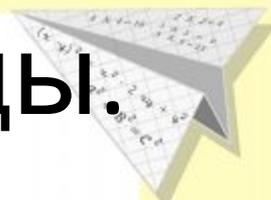
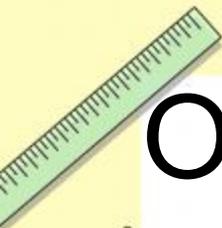
$$(x+y)(x-y) = x^2 - y^2$$



Обще методические подходы.

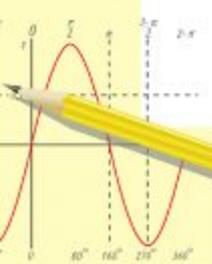
Для достижения правильности и беглости устных вычислений :

- на каждом уроке математики;
- 5 – 10 минут;
- выполняют одновременно одни и те же упражнения.



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

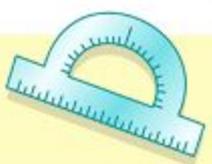
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- 7 x 7 = 49
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$$\frac{a}{A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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

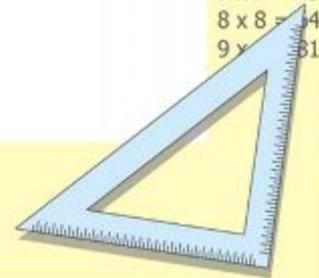
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$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

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



Цель введения устного счета на уроке:

Активация мыслительной деятельности обучающихся:

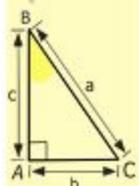
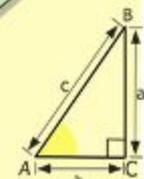
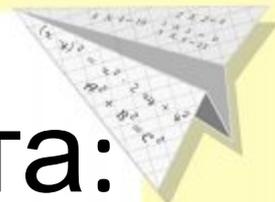
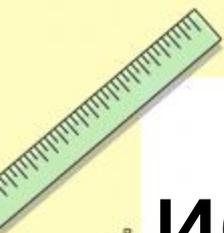
- развивается память;
- воображения;
- речь;
- внимание;
- способность воспринимать сказанное на слух,
- быстрота реакции.

ВОСПИТАТЕЛЬНАЯ РОЛЬ УСТНЫХ УПРАЖНЕНИЙ.

Предметная цель

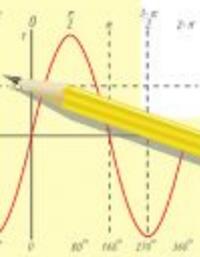
использования устного счета:

1. Повторение изученного материала.
2. Отработка умений и навыков применения знаний по определенной теме на практике.
3. Пропедевтика нового материала .
4. Развитие вычислительных умений и навыков.



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

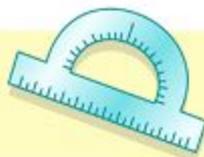
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$$\frac{a}{A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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

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

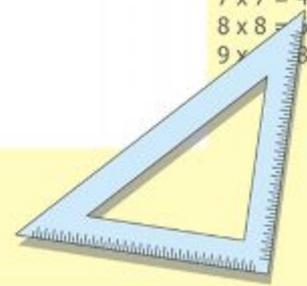


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

$$x = 70$$

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

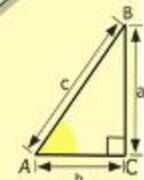
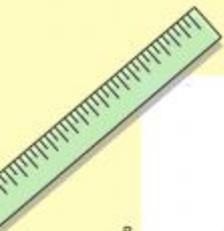


Подача материала при организации устного счета:

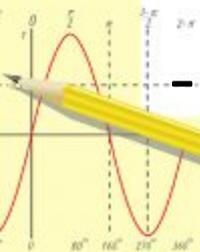
- Таблица.
- Тренажёр.
- Презентация.
- Схемы, диаграммы.

Формы представления устной речи обучающихся:

- с экранов электронной доски;
- с текстового материала.



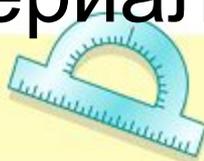
$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 2100 \\ + 8400 \\ \hline 105000 \end{array}$$



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

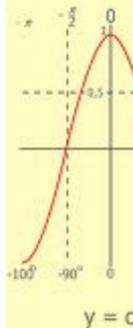
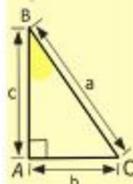
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

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



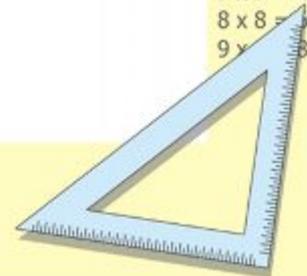
$$\begin{cases} \sin 90^\circ \\ x = 25y + 45 \\ y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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



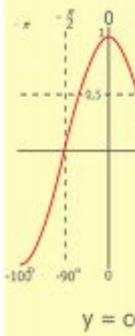
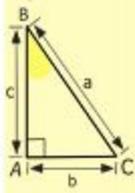
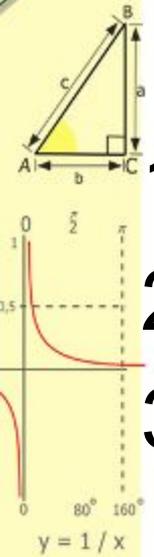
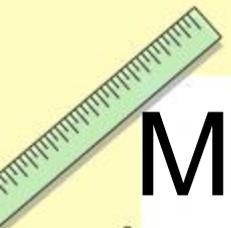
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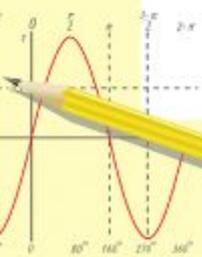
Материалы для устного счета:

1. Математические выражения.
2. Текстовые задачи.
3. Уравнения.



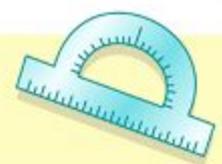
$$\begin{array}{r} \frac{1}{2} 500 \\ \times 42 \\ \hline 2100 \\ + 84 \\ \hline 105000 \end{array}$$

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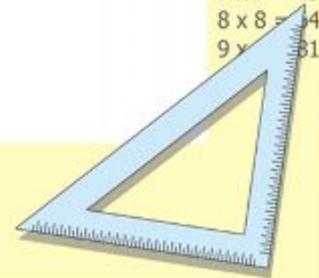
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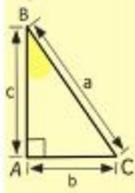
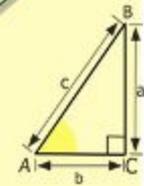
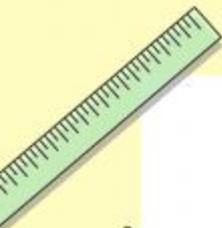
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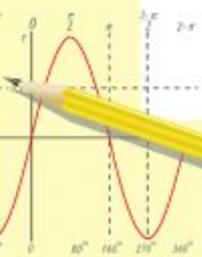
Формы восприятия устного счета:

- Беглый слуховой.
- Зрительный.
- Комбинированный.



$$\begin{array}{r} \frac{1}{2} 500 \\ \times 42 \\ \hline 2100 \\ + 84 \\ \hline 105000 \end{array}$$

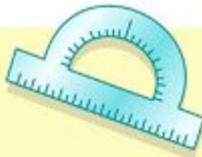
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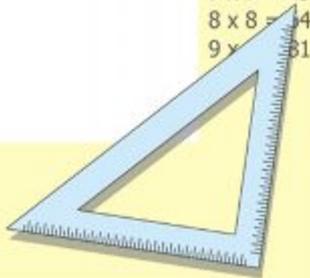
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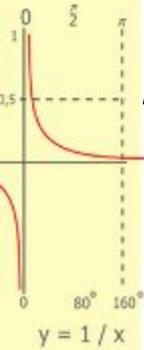
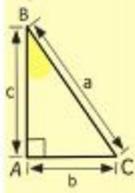
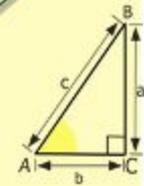
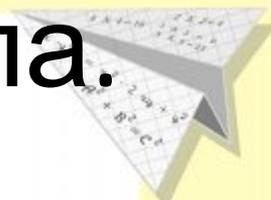
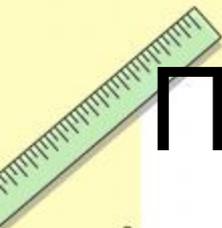
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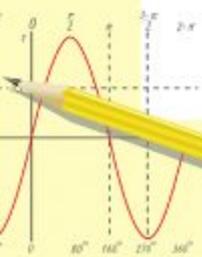
Принципы отбора материала.

1. Объем и содержание устных заданий.
2. Цель использования устного счета. Устный счет соединяется с проверкой домашних заданий, закреплением изученного материала, предлагаю при опросе.
3. Место в уроке.(5-7 минут.)



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

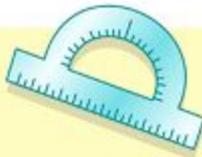
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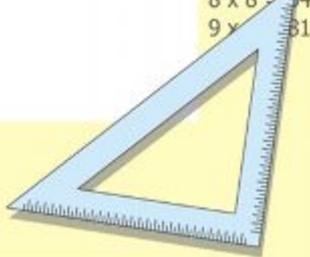
$$\sin 90^\circ = 1$$



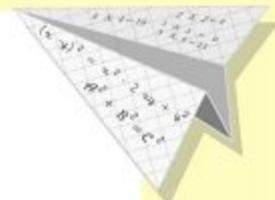
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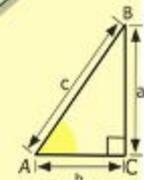
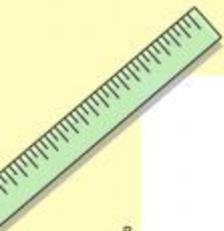
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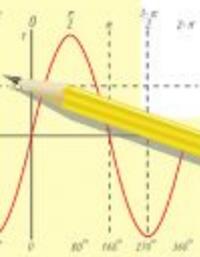
Фиксация резерв устного счета.



- Лист достижений.
- Экран.
- Сигнальные карточки.
- Веера.



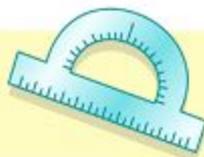
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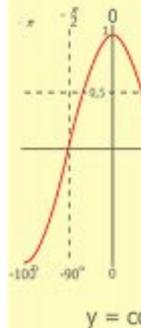
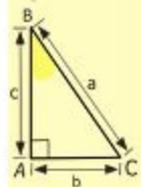
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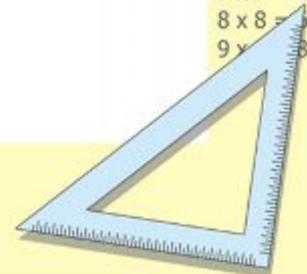
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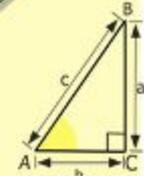
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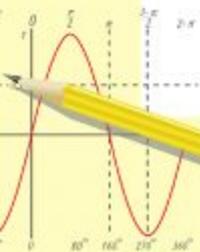


Формы организации работы с листом достижения.

- Индивидуальная или фронтальная.
- Тематическая или по уровням.



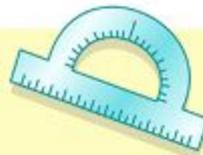
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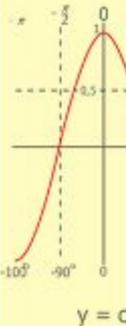
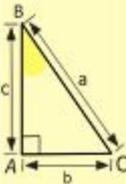
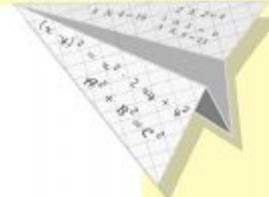
$$\sin 90^\circ = 1$$



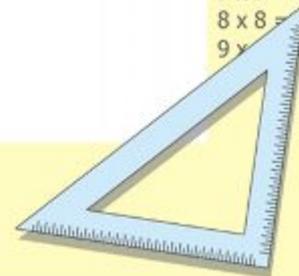
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

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

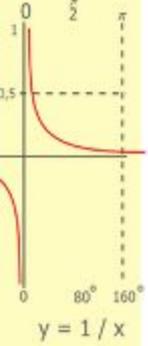
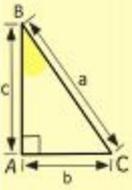
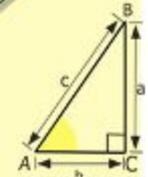
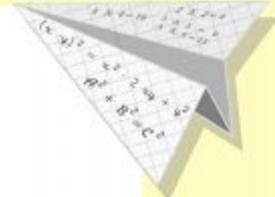
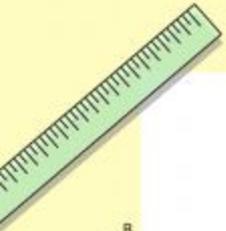


$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \\ 9 \times 9 = 81 \end{array}$$



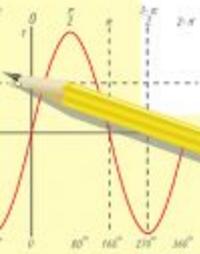
Вывод:

Таким образом, устный счет как обязательный этап урока должен проводиться на уроках математики как начальных классов, так в средних и старших классах. Чтобы навыки устных вычислений постоянно совершенствовались, необходимо установить правильное соотношение в применении устных и письменных приёмов вычислений, а именно: вычислять письменно только тогда, когда устно вычислять трудно.



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

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



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

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

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



$$\begin{cases} y = \sin 90 \\ y = 57 + 12 \\ y = 1 \\ x = 25 + 45 \\ x = 70 \end{cases}$$

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

