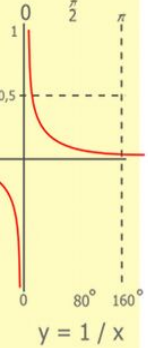
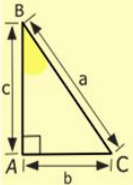
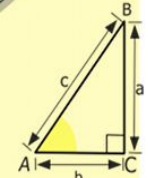
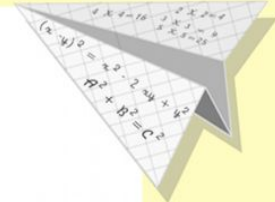
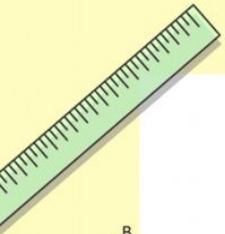


Тема урока:

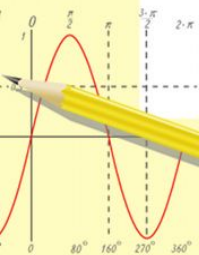
«Отрицательные числа и действия над ними»

6-А класс



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

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



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

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

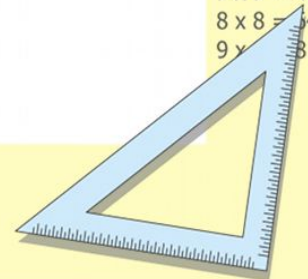
$$\sin 90^\circ = 1$$



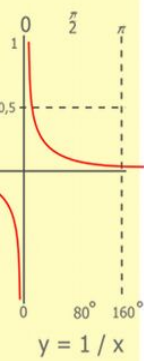
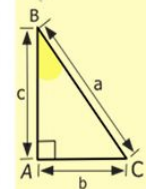
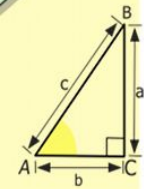
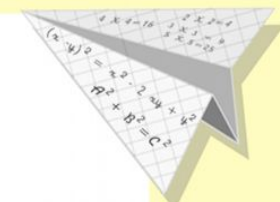
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

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

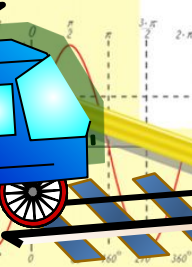


Станция «Разминкино»

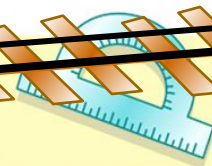


$$\begin{array}{r} 1 \\ 2500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 105000 \end{array}$$

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

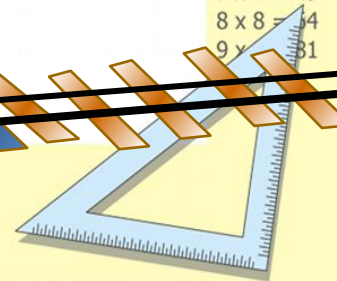


$a = b = c$



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

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



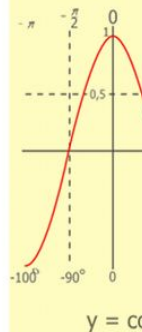
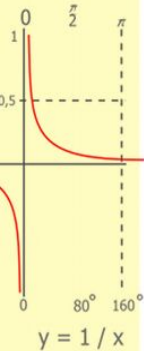
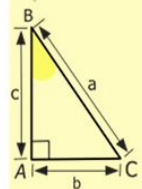
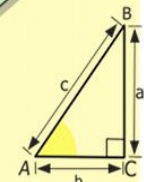
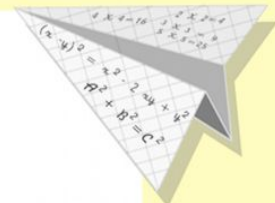
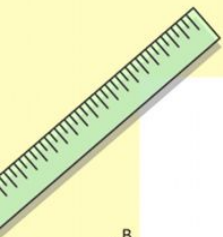
$$-4 + (-5) = -4 - 5 = -9$$

$$-20 + 4 = -(20 - 4) = -16$$

$$-20 + 4 = -16$$

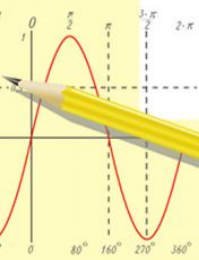
$$a + (-a) = 0$$

$$a + 0 = 0 + a = a$$



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

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

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

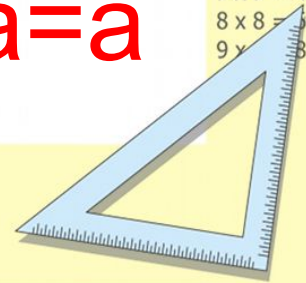
$$\sin 90^\circ = 1$$



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

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

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

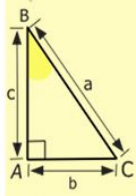
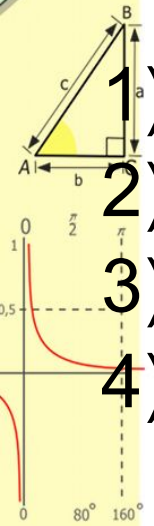
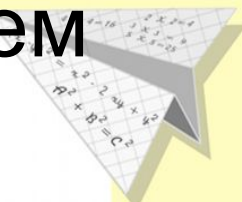
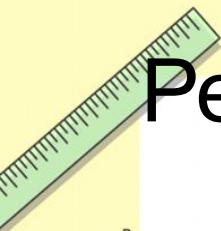


Решите примеры и расшифруйте, о чем хочет сказать Леопольд.

- 1) $-4-3=$ 5) $-0,1+0,5=$ 9) $-1/4+1=$ 13) $-10+3=$
 2) $-30+9=$ 6) $0,1-0,9=$ 10) $-15+3=$ 14) $-80+4=$
 3) $-5+5=$ 7) $-1/2+3/2=$ 11) $-327-9=$ 15) $-9+10=$
 4) $-0,3-0,5=$ 8) $-0,2-0,6=$ 12) $200-10=$ 16) $284+6=$

Таблица ответов:

A=-336 B=-12 E=290 Д=3/4 Л=190 M=-21
 O=-0,8 P=0,4 Ч=-76 Ш=1 X=0 Y=-7



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

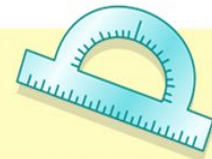
- $y = \cos$
- $2 \times 2 = 4$
- $3 \times 3 = 9$
- $4 \times 4 = 16$
- $5 \times 5 = 25$
- $6 \times 6 = 36$
- $7 \times 7 = 49$
- $8 \times 8 = 64$
- $9 \times 9 = 81$



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

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

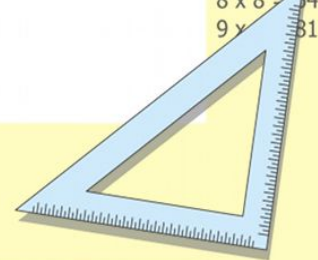
$$\sin 90^\circ = 1$$



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

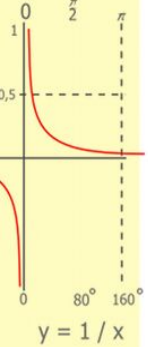
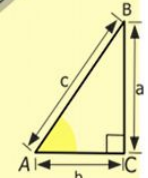
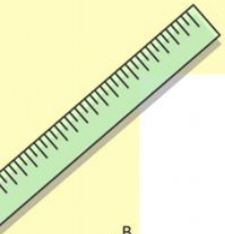
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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

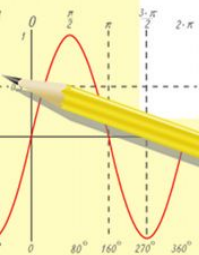


Проверь себя

- | | | | |
|--------------------|---|-------------------|---|
| 1) $-4-3=-7$ | У | 9) $-1/4+1=3/4$ | Д |
| 2) $-30+9=-21$ | М | 10) $-15+3=-12$ | В |
| 3) $-5+5=0$ | Х | 11) $-327-9=-336$ | А |
| 4) $-0,3-0,5=-0,8$ | О | 12) $200-10=190$ | Л |
| 5) $-0,1+0,5=0,4$ | Р | 13) $-10+3=-7$ | У |
| 6) $-0,9+0,1=-0,8$ | О | 14) $-80+4=-76$ | Ч |
| 7) $-1/2+3/2=1$ | Ш | 15) $-9+10=1$ | Ш |
| 8) $-0,2-0,6=-0,8$ | О | 16) $284+6=290$ | Е |



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



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

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

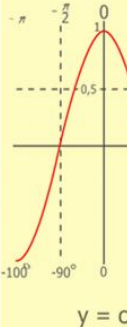
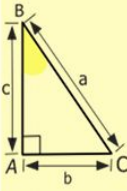
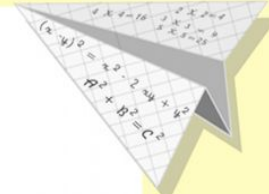
$$\sin 90^\circ = 1$$



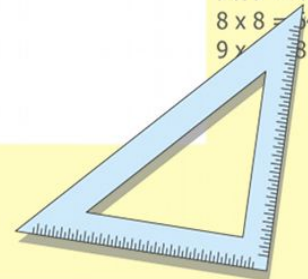
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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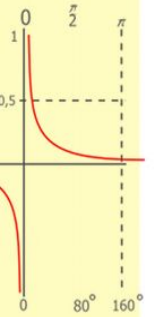
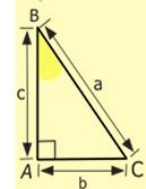
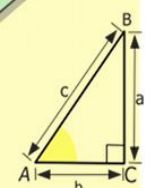
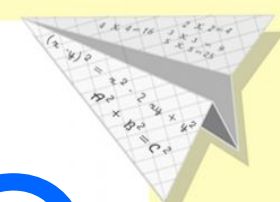
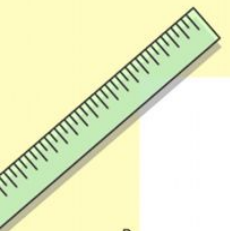


$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \\ 9 \times 9 = 81 \end{array}$$



«УМ ХОРОШО

– ДВА ЛУЧШЕ»



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

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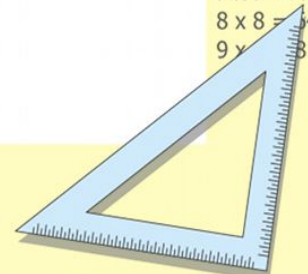
$$\sin 90^\circ = 1$$



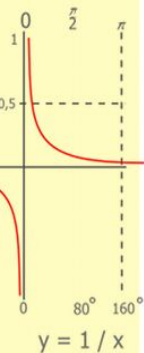
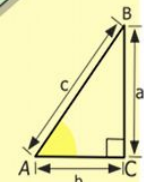
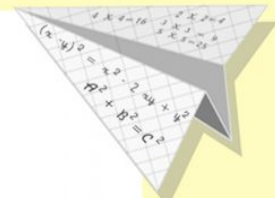
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

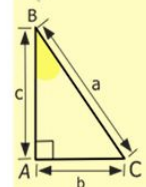
$$(x+y)(x-y) = x^2 - y^2$$



Станция «Угадай-ка»



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



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



\sin

$y = 1$

$x = 25 + 45$

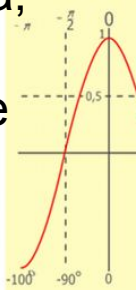
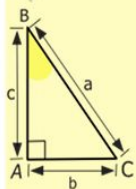
$x = 70$

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



ЗАДАНИЯ К КРОССВОРДУ:

- 1 – результат сложения чисел;
- 2 – равенство, содержащее букву, значение которой надо найти;
- 3 – компонент умножения;
- 4 – арифметическое действие;
- 5 – сумма длин сторон многоугольника;
- 6 – единица измерения массы;
- 7 – название второго разряда в классе единиц;
- 8 – название числа, состоящего из одной единицы и шести нулей;
- 9 – значение буквы, при котором из уравнения получается верное равенство;
- 10 – в ней есть условие и вопрос, требуется выполнить решение и найти ответ.



$$y = \cos$$

- 2 x 2 = 4
- 3 x 3 = 9
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- 5 x 5 = 25
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- 7 x 7 = 49
- 8 x 8 = 64
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$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

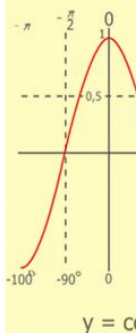
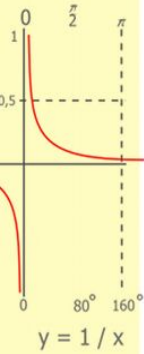
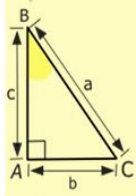
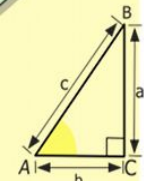
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$$(x+y)(x-y) = x^2 - y^2$$





		3М							
		Н		5П		7Д	8М		
		О	4Д	Е		Е	И		10З
1С	2У	Ж	Е	Р	6Г	С	Л		А
У	Р	И	Л	И	Р	Я	Л		Д
М	А	Т	Е	М	А	Т	И	9К	А
М	В	Е	Н	Е	М	К	О	О	Ч
А	Н	Л	И	Т	М	И	Н	Р	А
		Е	Ь	Е	Р			Е	
		Н						Н	
		И						Ь	
		Е							



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

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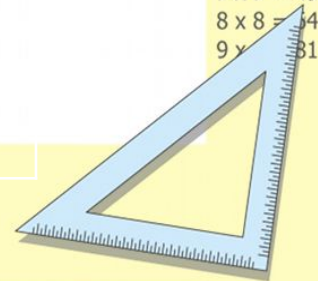
$$\sin 90^\circ = 1$$



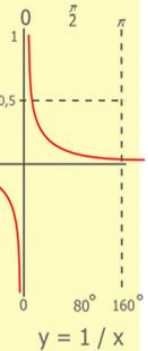
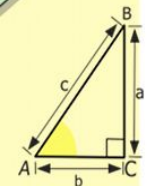
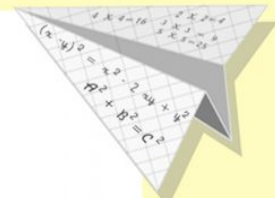
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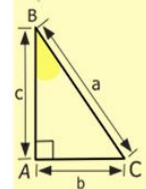
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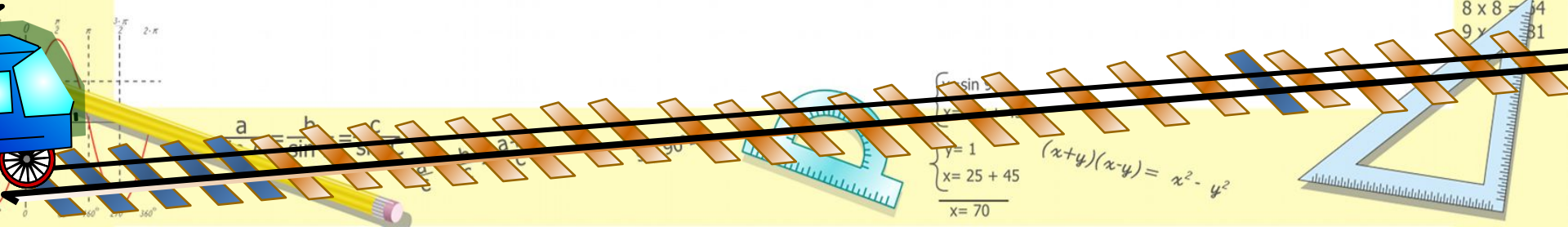
Станция «Догадай-ка»



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

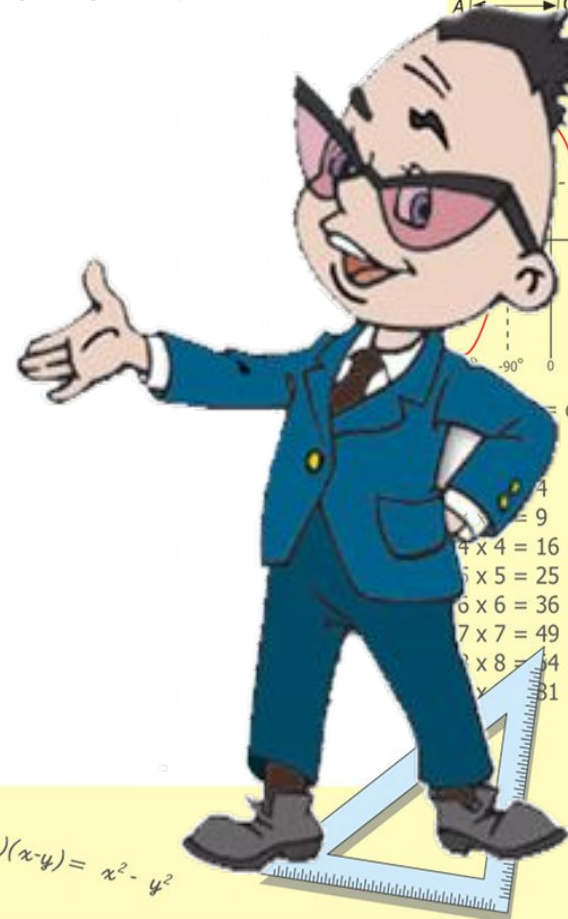


- $2 \times 2 = 4$
- $3 \times 3 = 9$
- $4 \times 4 = 16$
- $5 \times 5 = 25$
- $6 \times 6 = 36$
- $7 \times 7 = 49$
- $8 \times 8 = 64$
- $9 \times 9 = 81$



В нашей стране водится много бобров.

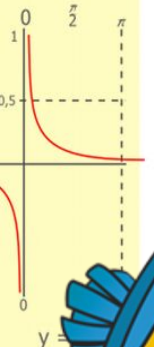
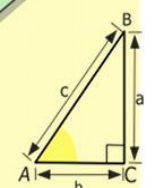
Бобёр – крупный грызун, ведёт полуводный образ жизни, обитает по лесным рекам, сооружает из ила и ветвей домики, поперёк реки делает плотины длиной 5 – 6 метров. Узнай массу бобра. Поможет тебе схема.



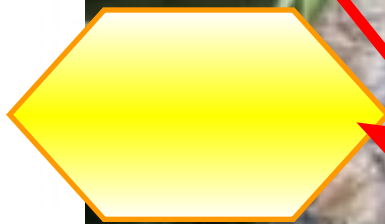
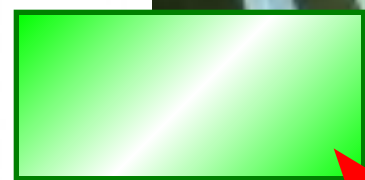
$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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

x = 70



$$\begin{array}{r} 21 \\ + 84 \\ \hline 1050 \end{array}$$



$$-56 + 1712 = 1656$$

$$:4 =$$



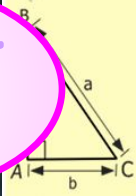
$$-1500 = 25 \text{ Kz}$$



$$:4 =$$

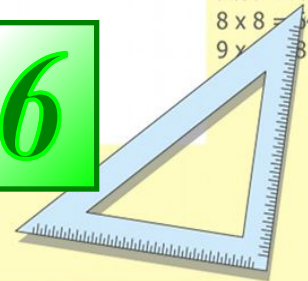


$$+61 =$$



$$y = \cos$$

- 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



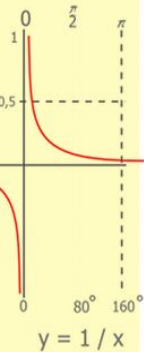
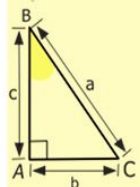
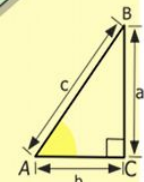
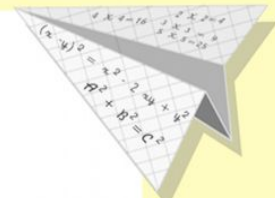
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

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

$$\begin{array}{l} y = \sin 30 \\ x = 25y + 45 \\ y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{array}$$

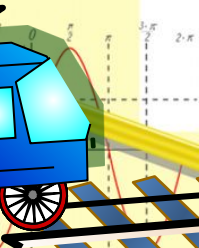
$$(x+y)(x-y) = x^2 - y^2$$

Станция «Размышлялка»



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

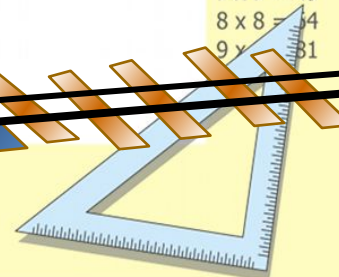
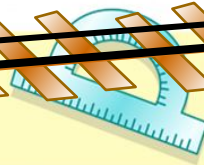
- $2 \times 2 = 4$
- $3 \times 3 = 9$
- $4 \times 4 = 16$
- $5 \times 5 = 25$
- $6 \times 6 = 36$
- $7 \times 7 = 49$
- $8 \times 8 = 64$
- $9 \times 9 = 81$



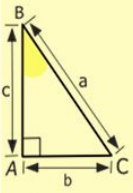
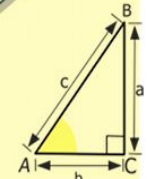
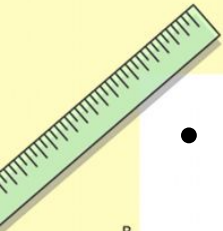
$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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

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

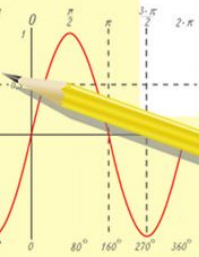


- Задача 1: Пнямбусу с Руфусом 250 лет. Руфус старше Пнямбуса на 50 лет. Сколько лет Пнямбусу и Руфусу?
- Задача 2: Я задумала число. Если, от 25% этого числа отнять 2, то получится 7. Какое число я задумала?
- Задача 3: В июне 12 дней шел дождь, а остальные дни были солнечные. Сколько процентов всех дней июня приходится на солнечные дни?



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

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



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

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

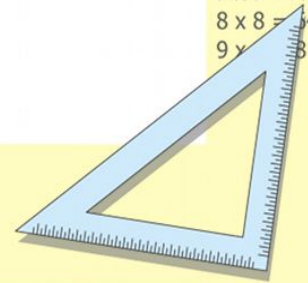
$$\sin 90^\circ = 1$$



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

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

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



РЕШЕНИЕ ЗАДАЧ

Задача 1:

$$x + (x + 50) = 250$$

$$2x + 50 = 250$$

$$2x = 250 - 50$$

$$2x = 200$$

$$x = 200 : 2$$

$x = 100$ (лет Пнямбусу).

$100 + 50 = 150$ (лет Руфусу).

Задача 2:

$$x : 4 - 2 = 7$$

$$x : 4 = 7 + 2$$

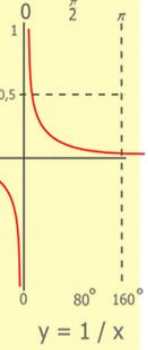
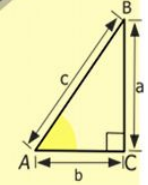
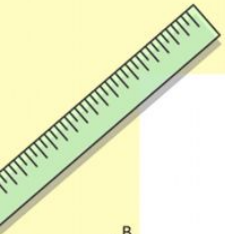
$$x = 9 * 4$$

$$x = 36$$

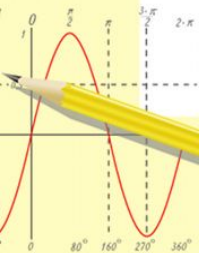
Задача 3:

$$12/30 = 2/5$$

$$2/5 * 100\% = 40\%$$



$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 2100 \\ + 840 \\ \hline 10500 \end{array}$$



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

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

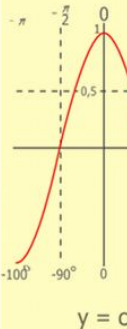
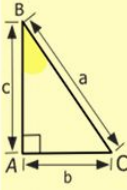
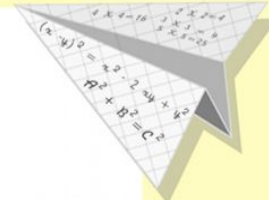
$$\sin 90^\circ = 1$$



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

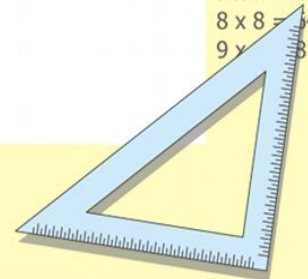
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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



$$y = \cos$$

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



Самостоятельная работа

Вариант 1

Вариант 2

1. Найдите значение выражения

2. Решите уравнение:

$$5z+z-42=18$$

$$16y-4y+15=135$$

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

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

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

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

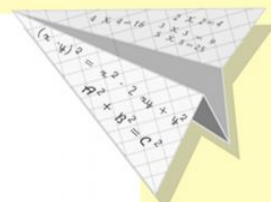
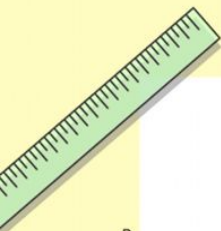
$$\begin{cases} y = 1 \\ x = 25 + 45 \end{cases}$$

$$x = 70$$

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

$$y = \cos$$

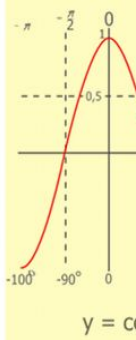
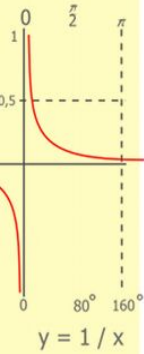
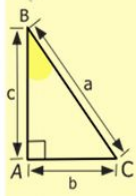
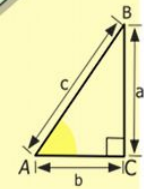
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Домашнее задание:

п.3 5-36

№ 1045(B), 1046, 1051(A,B)



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

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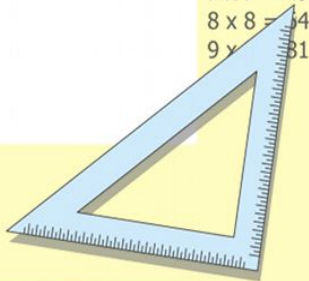
$$\sin 90^\circ = 1$$

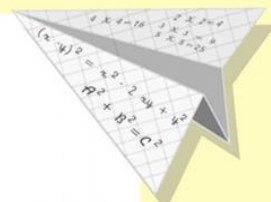
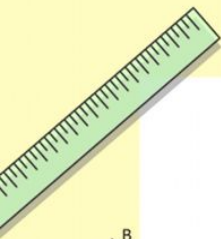


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

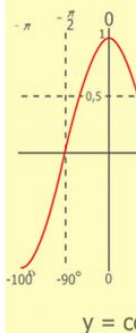
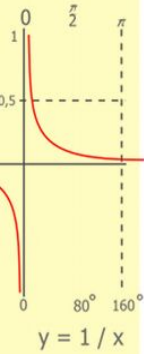
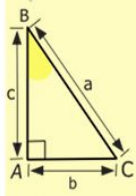
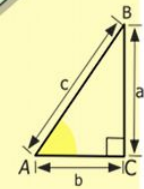
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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





Спасибо вам друзья,
 За ваши верные решенья,
 И помнить будем мы всегда,
 Что математика нужна
 И это без сомнения.



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

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

