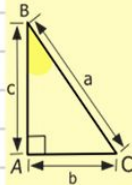
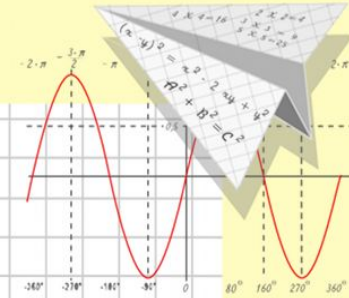
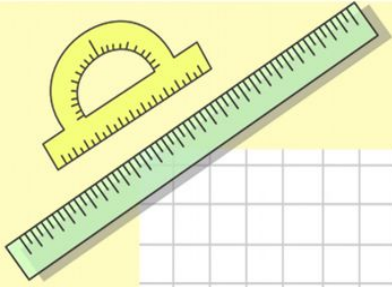


# Математик

а

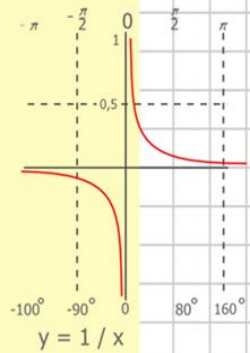
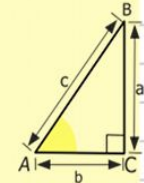
## «Умножение обыкновенных дробей»

Составила Авраменко О.И.  
Учитель математики 1 категории  
МОАУ СОШ с. Великокнязевки



$y = \cos x$

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



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



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

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

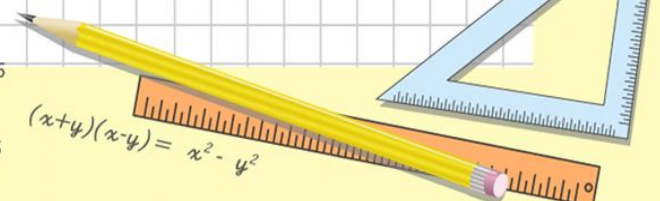


$$\sin 90^\circ = 1$$



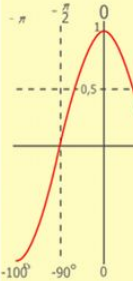
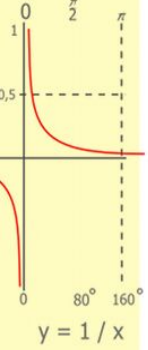
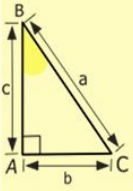
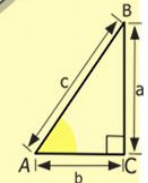
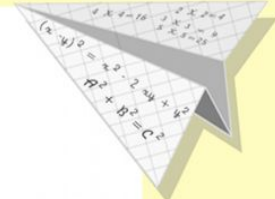
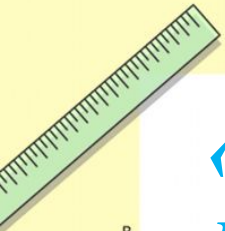
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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



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

«Чтобы спорилось нужное дело,  
 Чтобы в жизни не знать неудач,  
 Мы в поход отправляемся смело,-  
 В мир загадок и сложных задач.  
 Не беда что идти далеко  
 Не боимся, что путь будет труден  
 Достижения крупные людям  
 Никогда не давались легко».



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

$$y = \cos$$

- 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



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

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

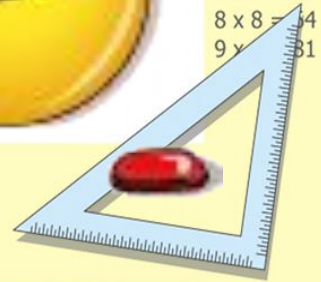
$$\sin 90^\circ = 1$$



$$\begin{cases} y = \sin 90^\circ \\ x = 25y \end{cases}$$

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

$$\frac{x}{70}$$



# Математик

## а Игра «Лото»

Выполните сложение

$$\frac{1}{9} + \frac{4}{9}$$

Выполните вычитание

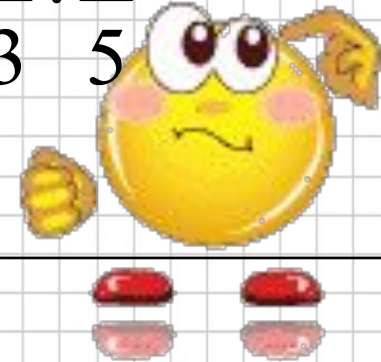
$$\frac{7}{24} - \frac{1}{4}$$

Сократите дробь

$$\frac{24}{32}$$

Выполните умножение

$$\frac{2}{3} \cdot \frac{4}{5}$$



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

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

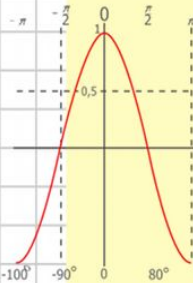
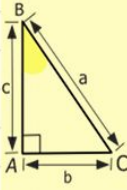
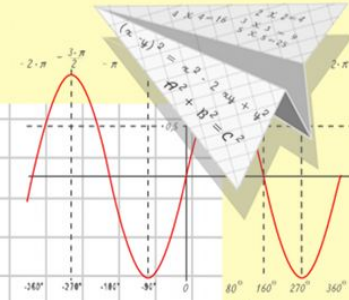
$$\sin 90^\circ = 1$$

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

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

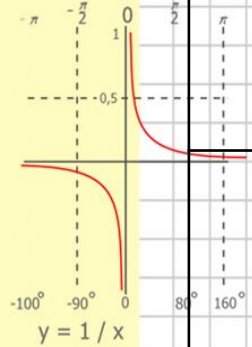
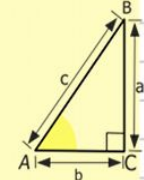
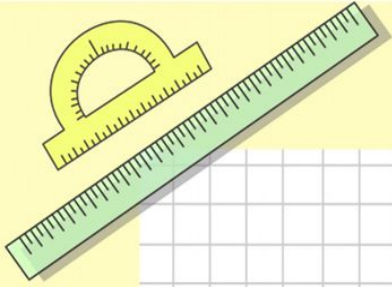
$$x = 70$$

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

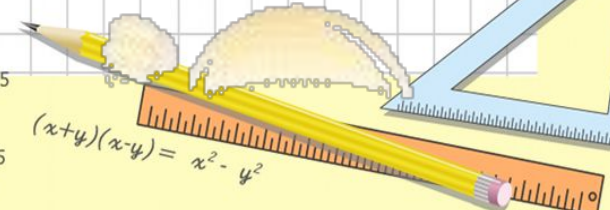
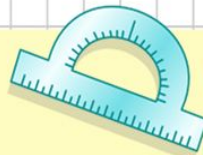


$$y = \cos x$$

- 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



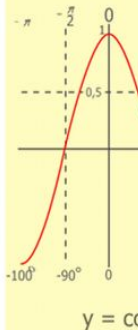
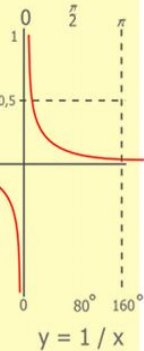
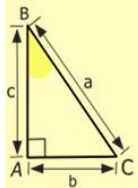
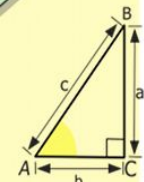
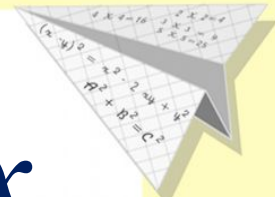
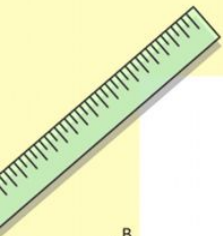
$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 2100 \\ + 8400 \\ \hline 105000 \end{array}$$



# Тема урока:

## «Умножение обыкновенных дробей»

Цель урока: *Научиться умножать обыкновенные дроби, вывести правило умножения обыкновенных дробей*



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

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



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

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

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

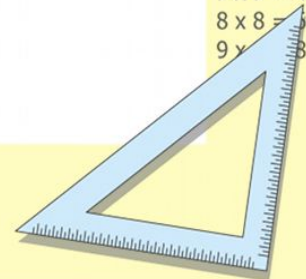


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

$$x = 70$$

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

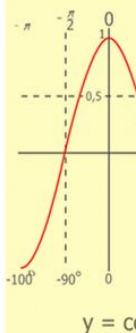
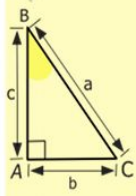
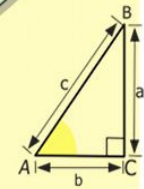
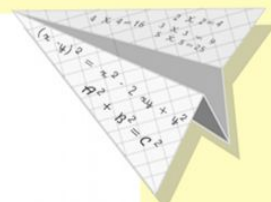
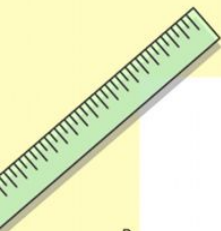


# Чему равна площадь прямоугольника ?



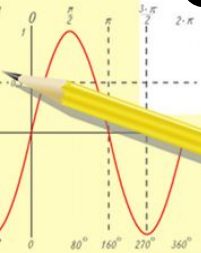
$$4 \cdot 5 = 20 \text{ кв. CM}$$

$$\frac{4}{10} \cdot \frac{5}{10} = \frac{20}{100}$$



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

- 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



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

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

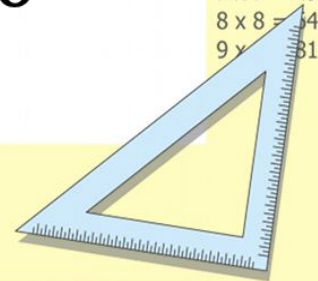
$$\sin 90^\circ = 1$$



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

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

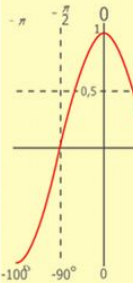
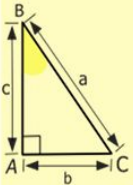
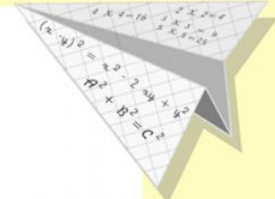
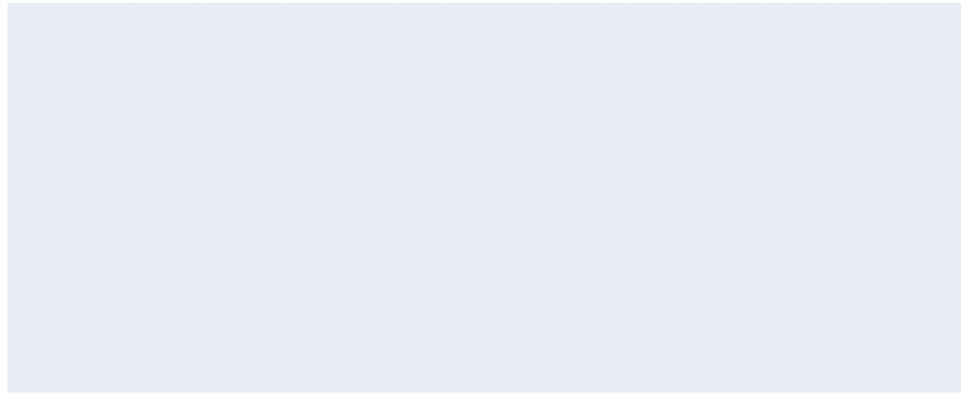
$$(x+y)(x-y) = x^2 - y^2$$



# Результат исследования



$$\frac{a}{b} \cdot \frac{m}{n} = \frac{a \cdot m}{b \cdot n}$$



$y = \cos$

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

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

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

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

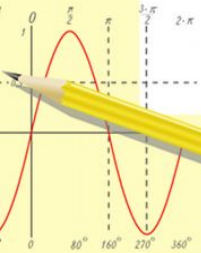
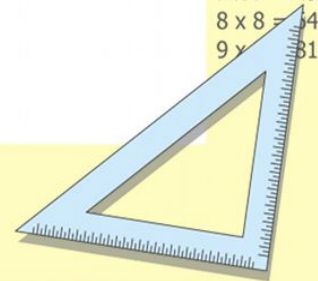
$$\sin 90^\circ = 1$$



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

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

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

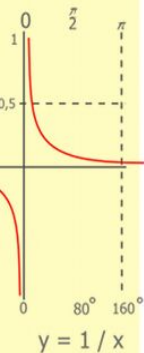
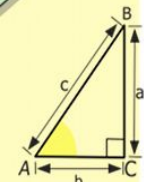
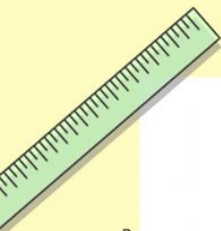


# Работа экспертов

$$\frac{4}{9} \cdot \frac{3}{5} = \frac{4 \cdot 3}{9 \cdot 5} = \frac{12}{47};$$

$$\frac{3}{4} \cdot \frac{2}{5} = \frac{3 \cdot 2}{4 \cdot 5} = \frac{6}{20}$$

$$\frac{3}{4} \cdot \frac{7}{5} = \frac{3 \cdot 7}{4 \cdot 5} = \frac{21}{20}$$



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



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

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

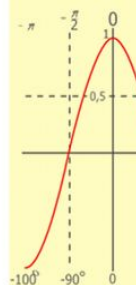
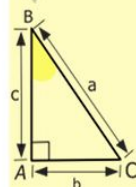
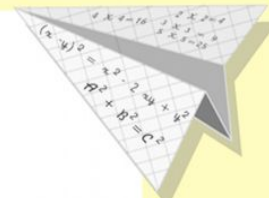
$$\sin 90^\circ = 1$$



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

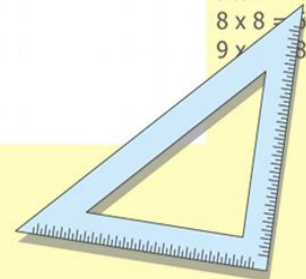
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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

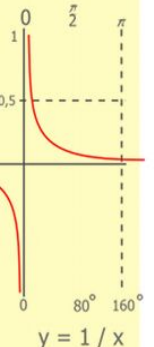
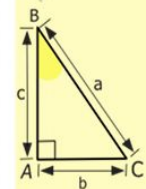
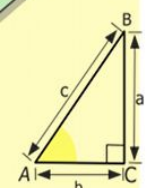
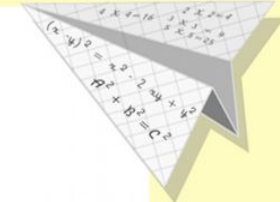
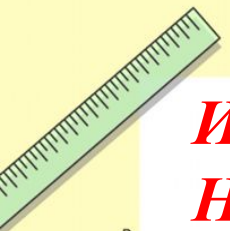


$$y = \cos$$

- 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



Из - за парт мы выйдем дружно,  
 Но шуметь совсем не нужно,  
 Мы все вместе улыбнемся,  
 Подмигнем слегка друг другу,  
 Вправо, влево повернемся ( повороты влево- вправо)  
 И кивнем затем по кругу. (наклоны влево-вправо)  
 Все идеи победили,  
 Вверх взметнулись наши руки. ( поднимают руки  
 вверх- вниз)  
 Груз забот с себя стряхнули  
 И продолжим путь науки.  
 ( встряхнули кистями рук)



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

- 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



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

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

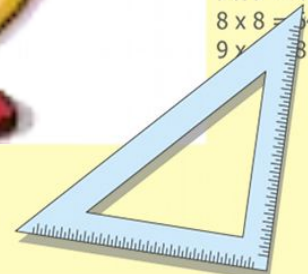
$$\sin 90^\circ = 1$$



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

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

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





# Вычислите:

## 1 вариант

$$\frac{2}{7} \cdot \frac{3}{9}$$

$$\frac{3}{4} \cdot \frac{3}{5}$$

$$\frac{4}{2} \cdot \frac{9}{3}$$

$$\frac{2}{3} \cdot \frac{9}{7}$$

$$\frac{3}{11} \cdot \frac{7}{7}$$

$$\frac{11}{7} \cdot \frac{7}{7}$$

## 2 вариант

$$\frac{1}{4} \cdot \frac{2}{6}$$

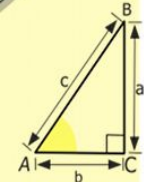
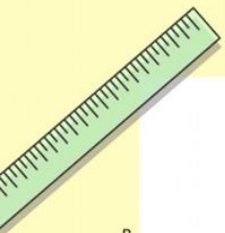
$$\frac{7}{8} \cdot \frac{9}{10}$$

$$\frac{2}{11} \cdot \frac{9}{7}$$

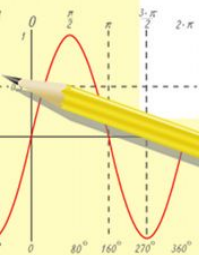
$$\frac{11}{7} \cdot \frac{7}{7}$$

$$\frac{2}{11} \cdot \frac{9}{7}$$

$$\frac{11}{7} \cdot \frac{7}{7}$$



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



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

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

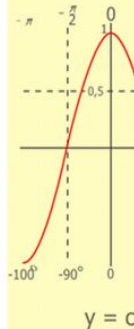
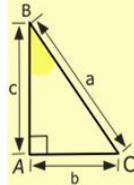
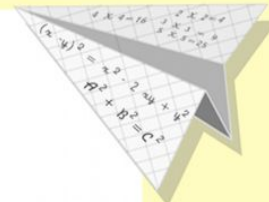
$$\sin 90^\circ = 1$$



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

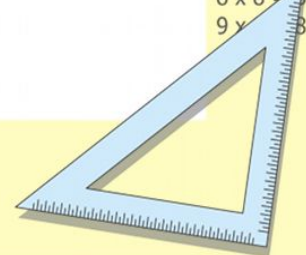
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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



$$y = \cos$$

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



# Самостоятельная работа

## 1 вариант

## 2 вариант

1)

$$\frac{5}{9} \cdot \frac{1}{8} = \frac{5}{72}$$

1)

$$\frac{4}{9} \cdot \frac{1}{7} = \frac{4}{63}$$

2)

$$\frac{7}{5} \cdot \frac{1}{6} = \frac{7}{30}$$

2)

$$\frac{7}{3} \cdot \frac{1}{4} = \frac{7}{12}$$

3)

$$\frac{6}{11} \cdot \frac{2}{3} = \frac{6 \cdot 2}{11 \cdot 3} = \frac{2 \cdot 2}{11 \cdot 1} = \frac{4}{11}$$

3)

$$\frac{4}{11} \cdot \frac{3}{5} = \frac{4 \cdot 3}{11 \cdot 5} = \frac{12}{55}$$

4)

$$\frac{2}{5} \cdot \frac{9}{10} = \frac{2 \cdot 9}{5 \cdot 10} = \frac{1 \cdot 9}{5 \cdot 5} = \frac{9}{25}$$

4)

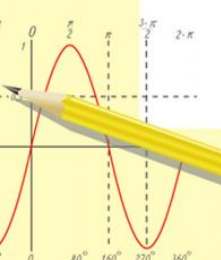
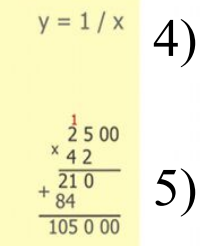
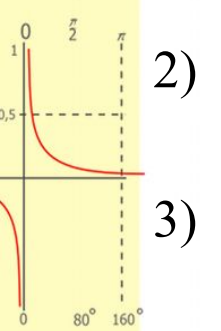
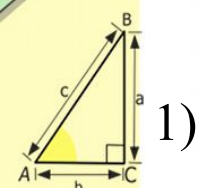
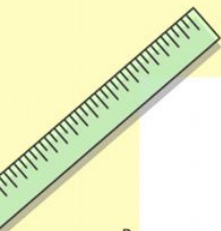
$$\frac{2}{7} \cdot \frac{3}{10} = \frac{2 \cdot 3}{7 \cdot 10} = \frac{1 \cdot 3}{7 \cdot 5} = \frac{3}{35}$$

5)

$$\frac{10}{19} \cdot \frac{2}{3} = \frac{10 \cdot 2}{19 \cdot 3} = \frac{20}{57}$$

5)

$$\frac{10}{17} \cdot \frac{2}{3} = \frac{10 \cdot 2}{17 \cdot 3} = \frac{20}{51}$$



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

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

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

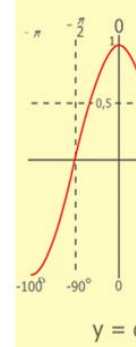
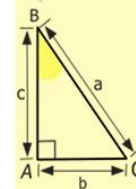
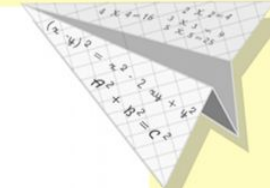


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

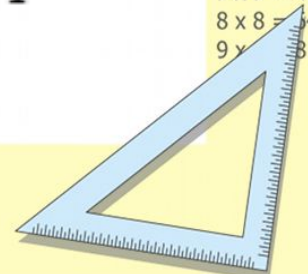
$$\begin{cases} y = 1 \\ x = 25 + 45 \end{cases}$$

$$x = 70$$

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

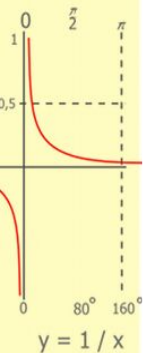
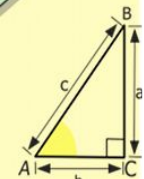
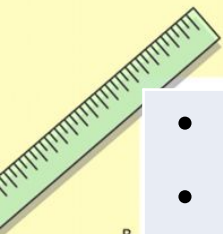


- 2 x 2 = 4
- 3 x 3 = 9
- 4 x 4 = 16
- 5 x 5 = 25
- 6 x 6 = 36
- 7 x 7 = 49
- 8 x 8 = 64
- 9 x 9 = 81

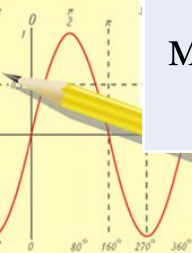


# Игра «Микрофон»

- сегодня я узнал...
  - было интересно...
  - было трудно...
  - я выполнял задания...
  - я понял, что...
  - теперь я могу...
  - я почувствовал, что...
  - я приобрел...
  - я научился...
  - у меня получилось ...
  - я смог...
  - я попробую...
  - меня удивило...
  - урок дал мне для жизни...
- мне захотелось...



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



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

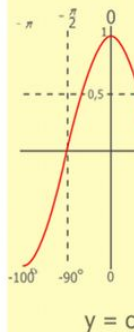
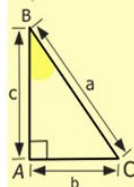
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

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



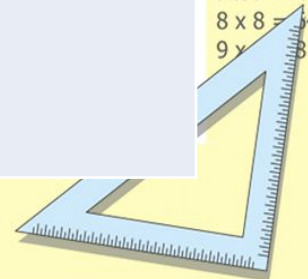
$$\begin{array}{l} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{array}$$

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

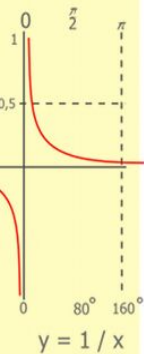
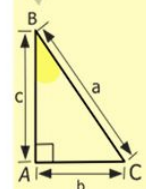
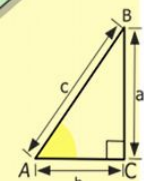
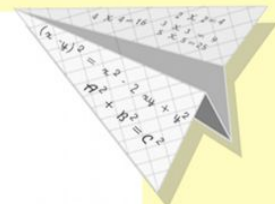
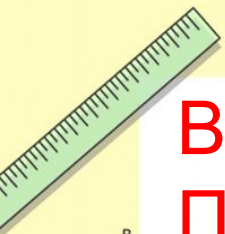


$$y = \cos$$

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



Вот закончился урок,  
 Подведём сейчас итог,  
 Много вспомнили, друзья,  
 Без этого никак нельзя.  
 Правила мы изучили,  
 На практике их применили  
 Задачи, находя решение,  
 Развивают мышление,  
 Память и внимание,  
 Закрепляли знания.  
 А теперь, внимание,  
 Домашнее задание:



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

- 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



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

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

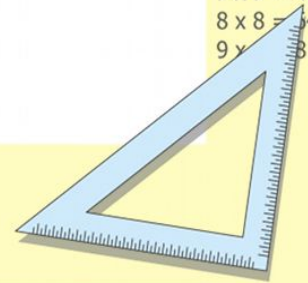
$$\sin 90^\circ = 1$$



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

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

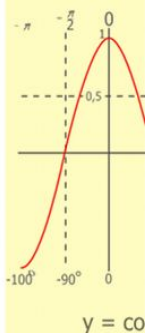
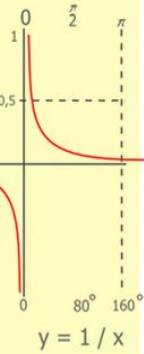
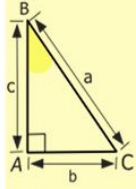
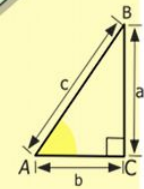
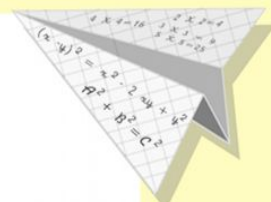
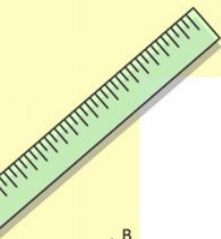
$$(x+y)(x-y) = x^2 - y^2$$



# Домашнее задание

с. 166, п.35 (читать)

с.168, № 594 (выполнить)



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

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



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

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

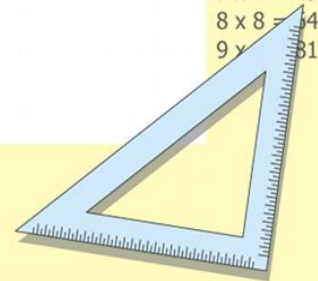
$$\sin 90^\circ = 1$$

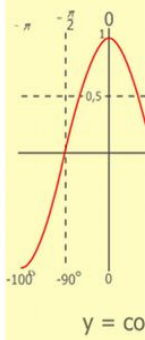
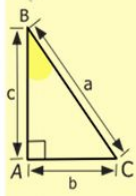
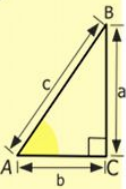
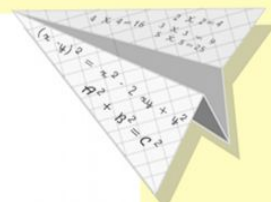
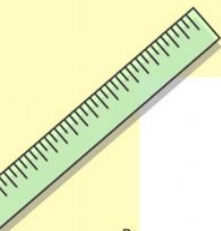


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

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



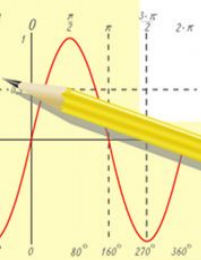


# Спасибо вам за урок!



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

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



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

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

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



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

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

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

