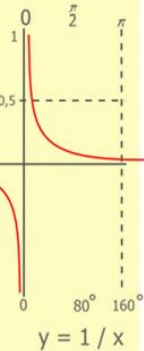
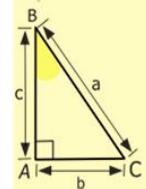
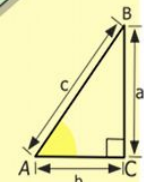
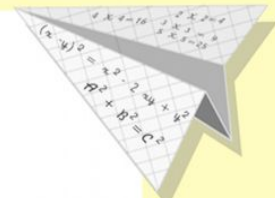
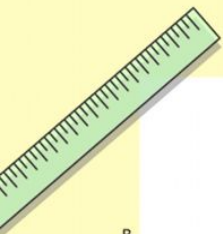


Свойство диаметра окружности. Взаимное расположение прямой и окружности.



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

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



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

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

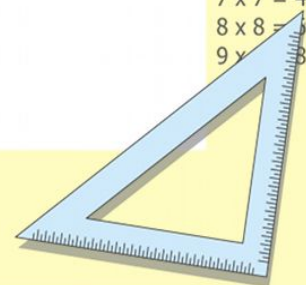
$$\sin 90^\circ = 1$$



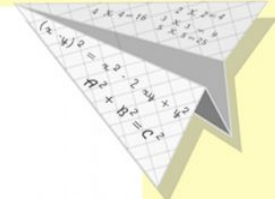
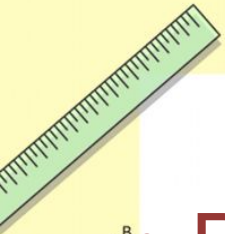
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

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



Цели урока



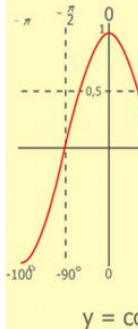
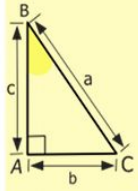
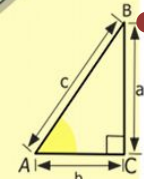
• Рассмотреть различные случаи взаимного расположения прямой и окружности;

• Доказать свойство диаметра окружности;

• Совершенствовать навыки решения задач;

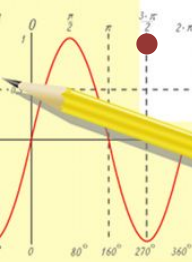
• Развитие логического мышления, навыков самоконтроля;

• Воспитание культуры математической речи, уважительного отношения к мнению окружающих.



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

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



$$\frac{b}{a} = \frac{b}{a} \cdot \frac{c}{c} = \frac{bc}{ac} = \frac{\sin C}{\sin A}$$

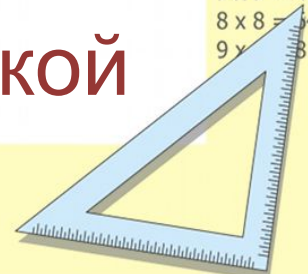
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

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



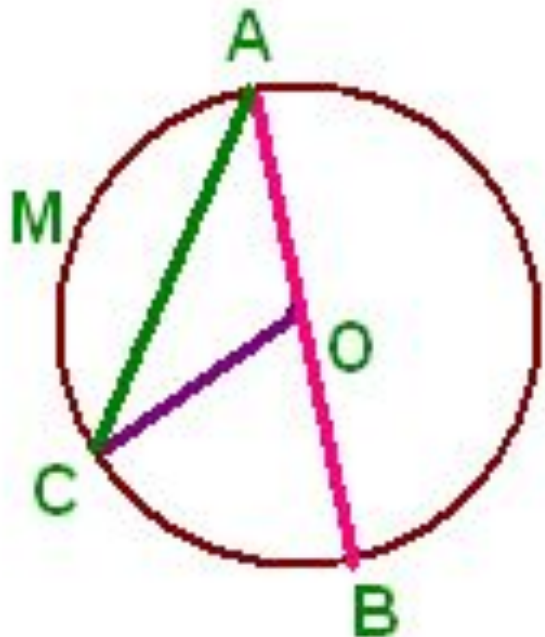
$$\begin{cases} y = \sin 90 \\ y = 25y + 15 \\ y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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



Определение окружности, ее основных элементов

Окружность – геометрическая фигура, состоящая из всех точек плоскости, расположенных на заданном расстоянии от данной точки.



Дайте определение

- диаметра,
- радиуса,
- хорды,

Найдите их на рисунке.

Назовите формулу, связывающую радиус и диаметр окружности.

$CO = 3,7$ м. Найти AB

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

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

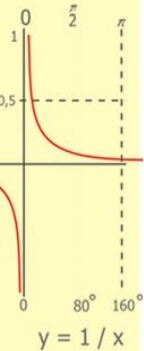
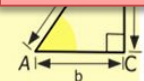
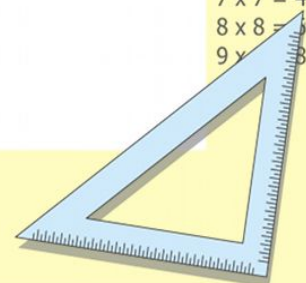
$$\sin 90^\circ = 1$$



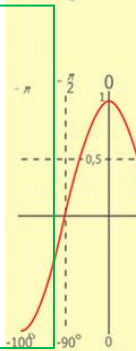
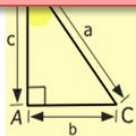
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

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

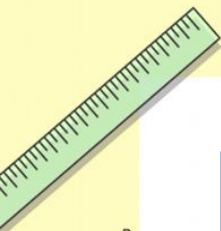


$$\begin{array}{r} 2500 \\ \times 42 \\ \hline 210 \\ + 84 \\ \hline 10500 \end{array}$$

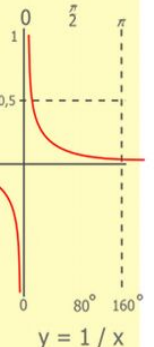
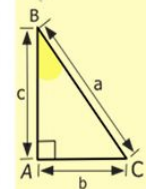
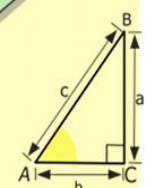


$$y = \cos$$

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



№ вопроса	Вариант 1	Вариант 2
3	в)	а)
4	б)	в)
5	OB; OA; OD; OC	BC; AD
6	MK; NK; AB	OM; OA; OD; OK; OB
7	в)	в)
8	б); $R=d:2$	а); $d=2 \cdot R$



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09.12.2012

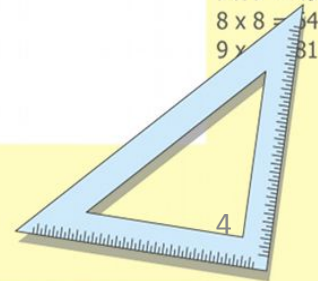
$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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

Обрнова Л.В., МОУ СОШ №4, г. Фрязино

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

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



Свойство диаметра окружности

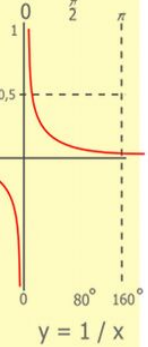
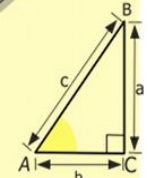
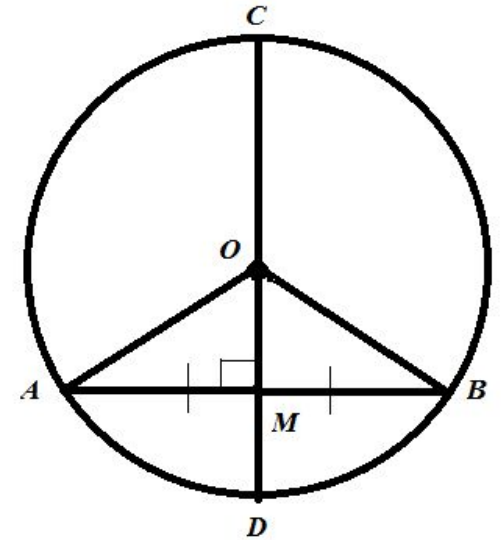
Диаметр окружности, перпендикулярный хорде, делит эту хорду пополам.

Дано: окружность, $CD \perp AB$

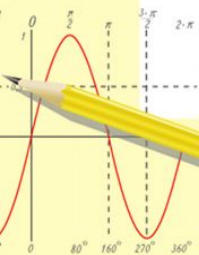
Доказать: M – середина AB

Доказательство:

1. Проведем радиусы OA и OB .
2. Треугольник AOB равнобедренный.
3. OM – высота проведенная к основанию, OM – медиана.



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



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

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



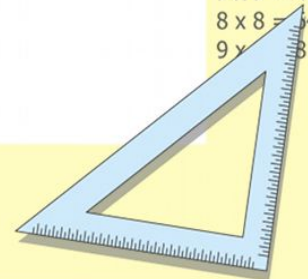
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

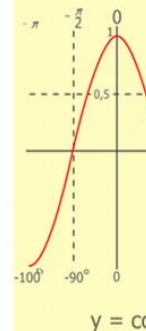
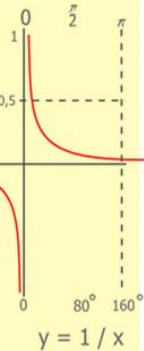
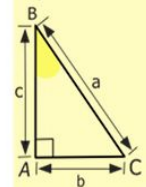
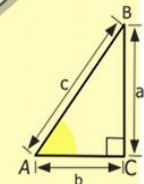
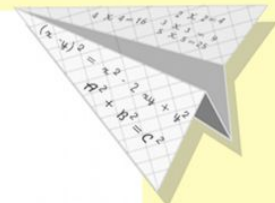
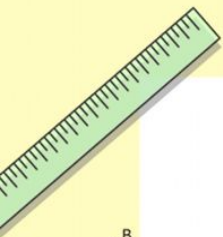


$$\begin{array}{l} 2 \times 2 = 4 \\ 3 \times 3 = 9 \\ 4 \times 4 = 16 \\ 5 \times 5 = 25 \\ 6 \times 6 = 36 \\ 7 \times 7 = 49 \\ 8 \times 8 = 64 \\ 9 \times 9 = 81 \end{array}$$



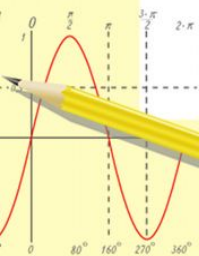
Работа с учебником:

№ 511 Устно;
№ 520



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

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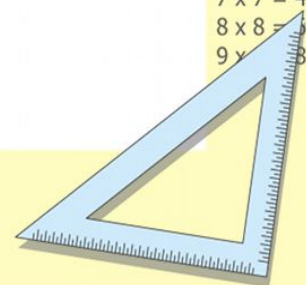
$$\sin 90^\circ = 1$$



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

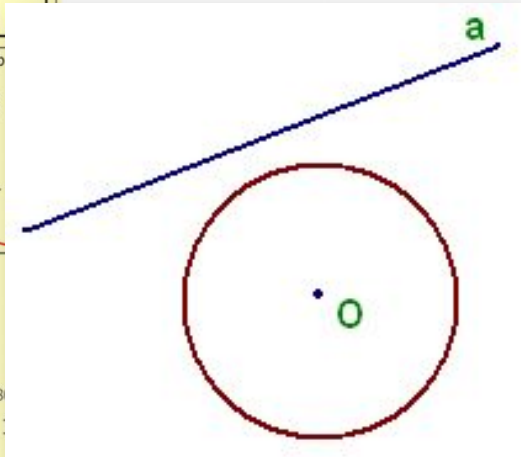
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ \hline x = 70 \end{cases}$$

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

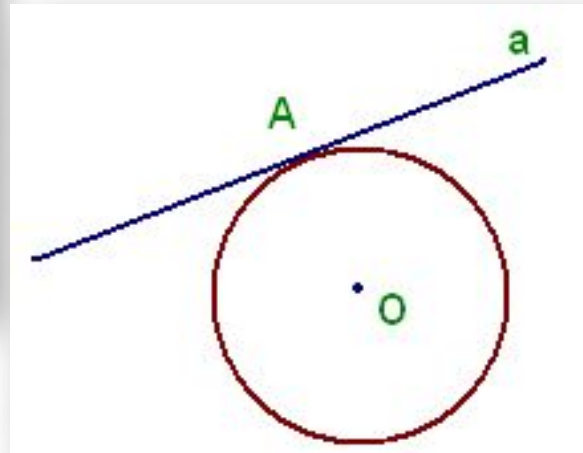


Взаимное расположение прямой и окружности:

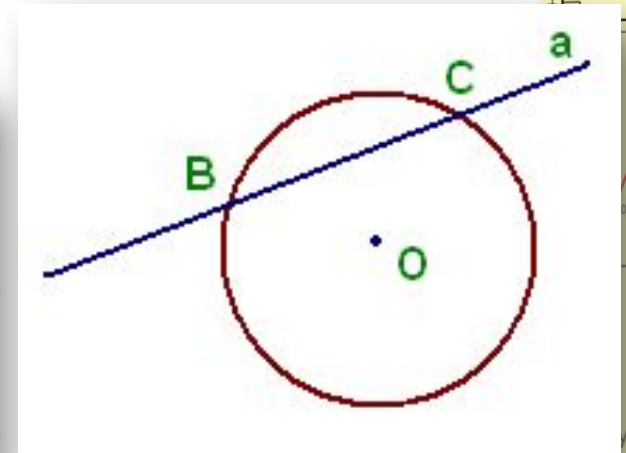
Сколько общих точек могут иметь прямая и окружность, лежащие в одной плоскости?



Нет общих точек



а - касательная
Одна общая точка –
точка касания



а - секущая
Две общие точки –
точки пересечения

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

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

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

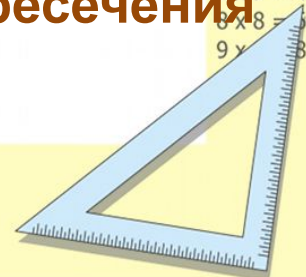


$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

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

$$x = 70$$

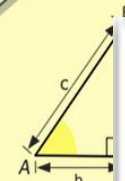
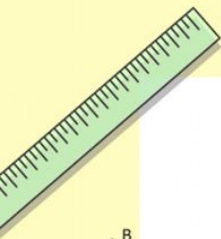
$$(x+y)(x-y) = x^2 - y^2$$



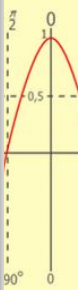
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Искры летят по касательной



$\frac{1}{2} 5 00$
 $\times 4 2$
 $\hline 21 0$
 $+ 84$
 $\hline 105 0 0$



- = 4
- = 9
- = 16
- = 25
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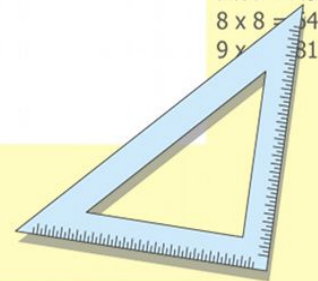
$\sin 90^\circ = 1$



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

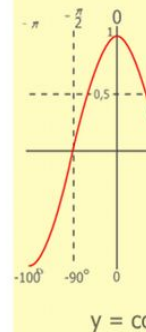
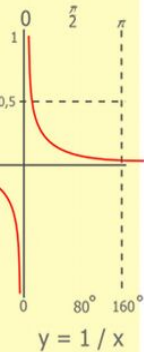
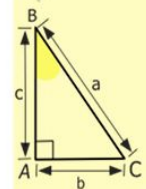
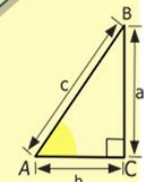
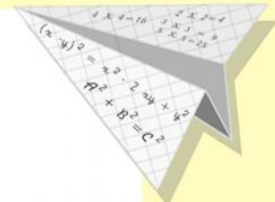
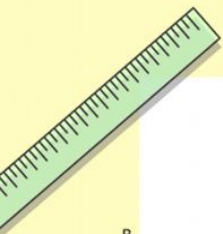
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$$(x+y)(x-y) = x^2 - y^2$$



ИТОГИ УРОКА

Домашнее задание: № 522, п. 20



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

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