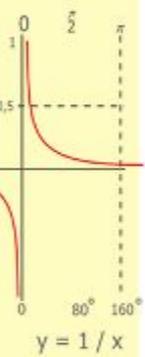
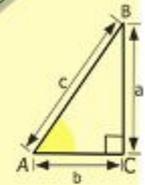
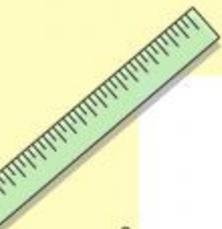


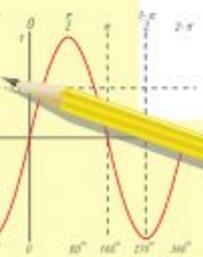
Тема урока:
«расстояние между двумя точками»

«координаты середины отрезка»

9 класс

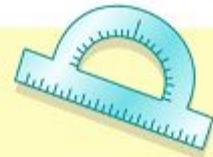


$$\begin{array}{r} \frac{1}{2} 5\ 00 \\ \times 42 \\ \hline 21\ 0 \\ + 84 \\ \hline 105\ 0\ 00 \end{array}$$



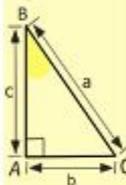
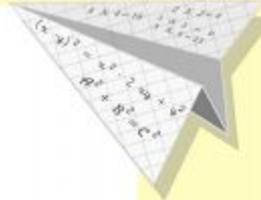
$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

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

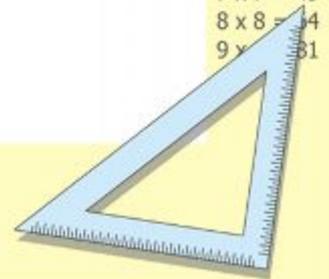


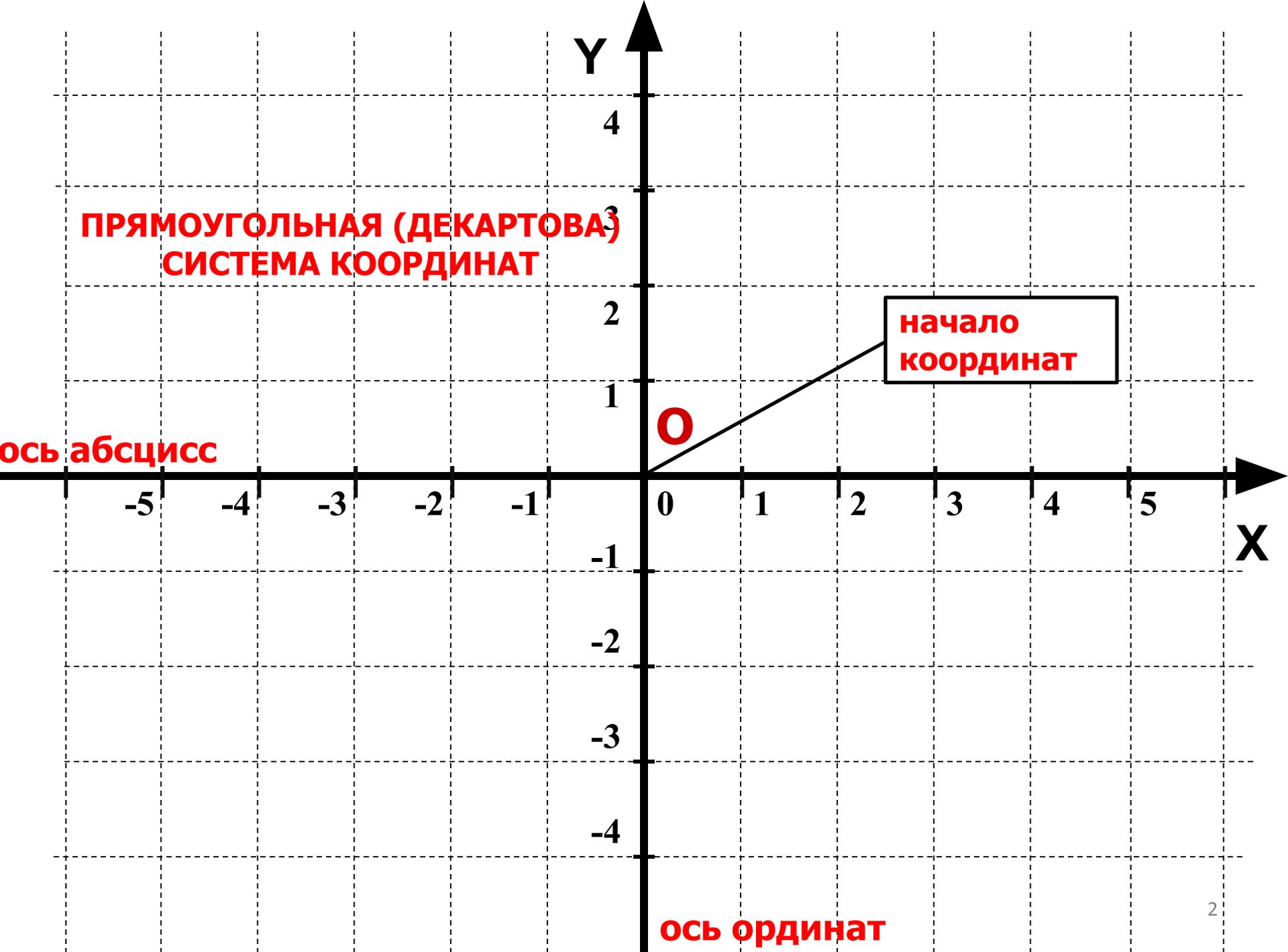
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$
$$\begin{cases} y = 1 \\ x = 25 + 45 \end{cases}$$
$$\frac{x}{70}$$

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



- 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



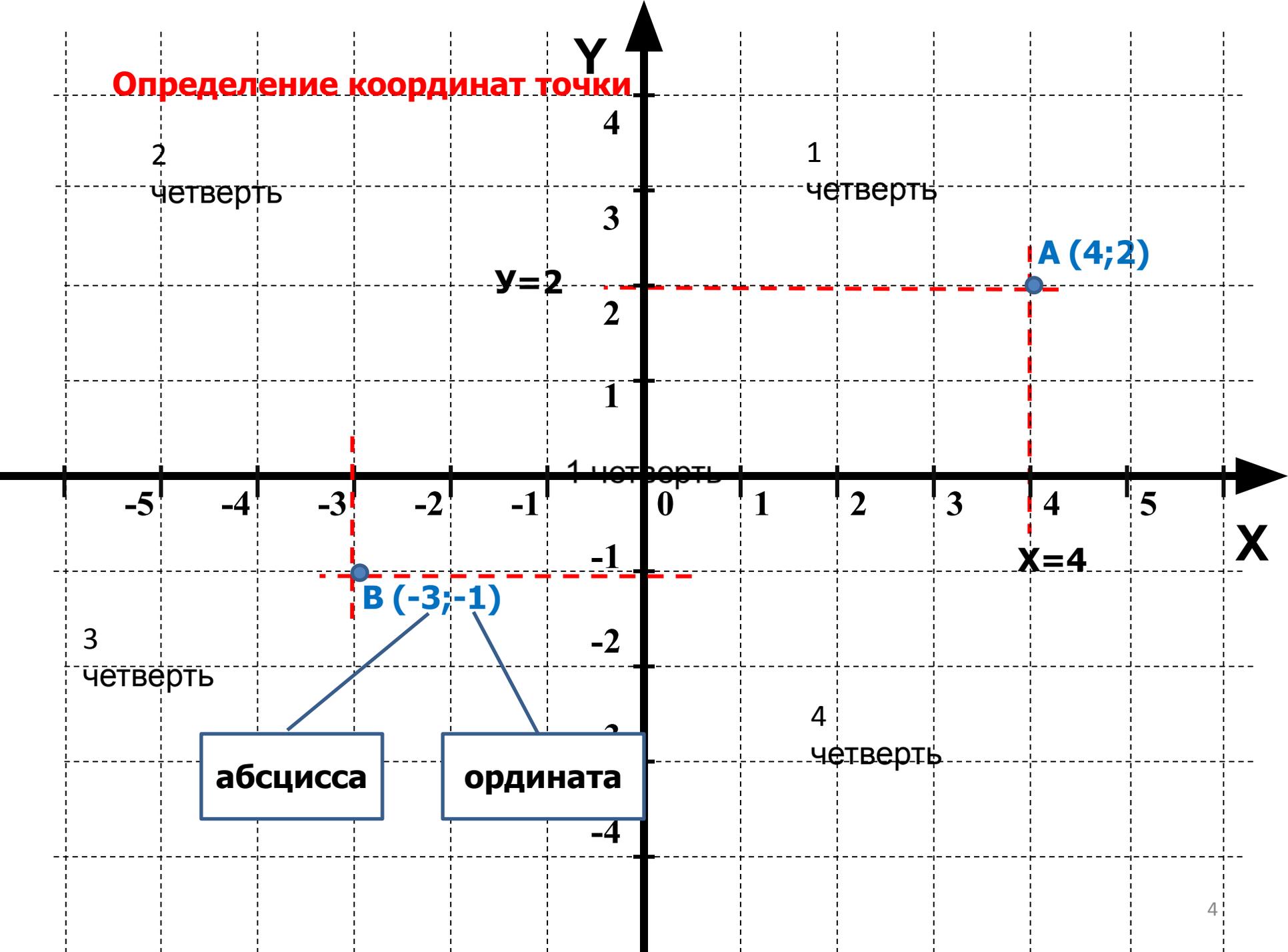


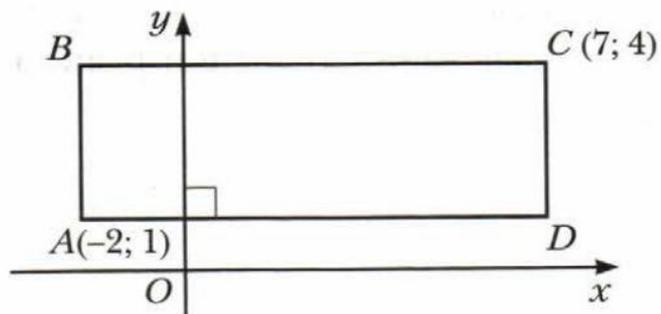


Рене Декарт –
французский философ,
математик,
физик и физиолог.
(1596-1650).

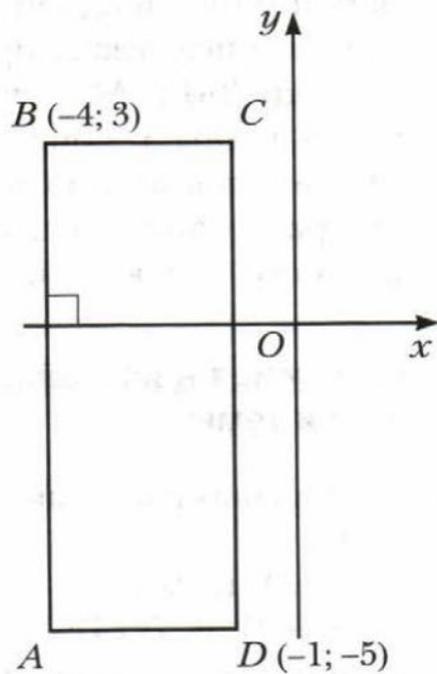
*Автор координатной
плоскости, поэтому ее
часто называют
декартовой системой
координат.*

Определение координат точки

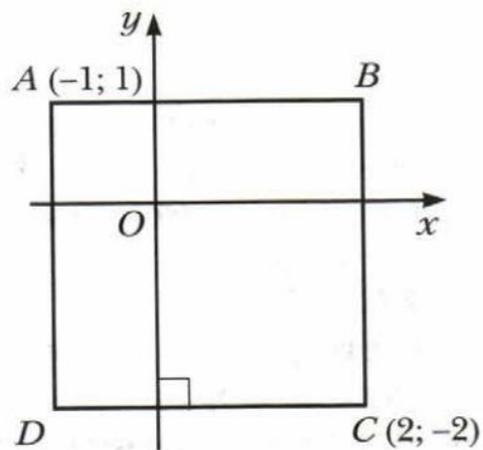




a



б



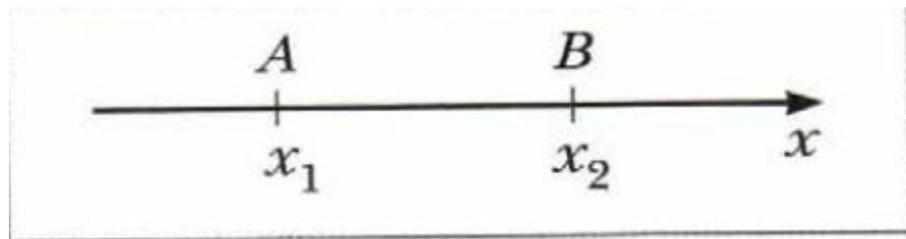
в

В какой координатной четверти находится точка:

- 1) $A (3; -4)$; 3) $C (-4; -5)$;
2) $B (-3; 1)$; 4) $D (1; 9)$?

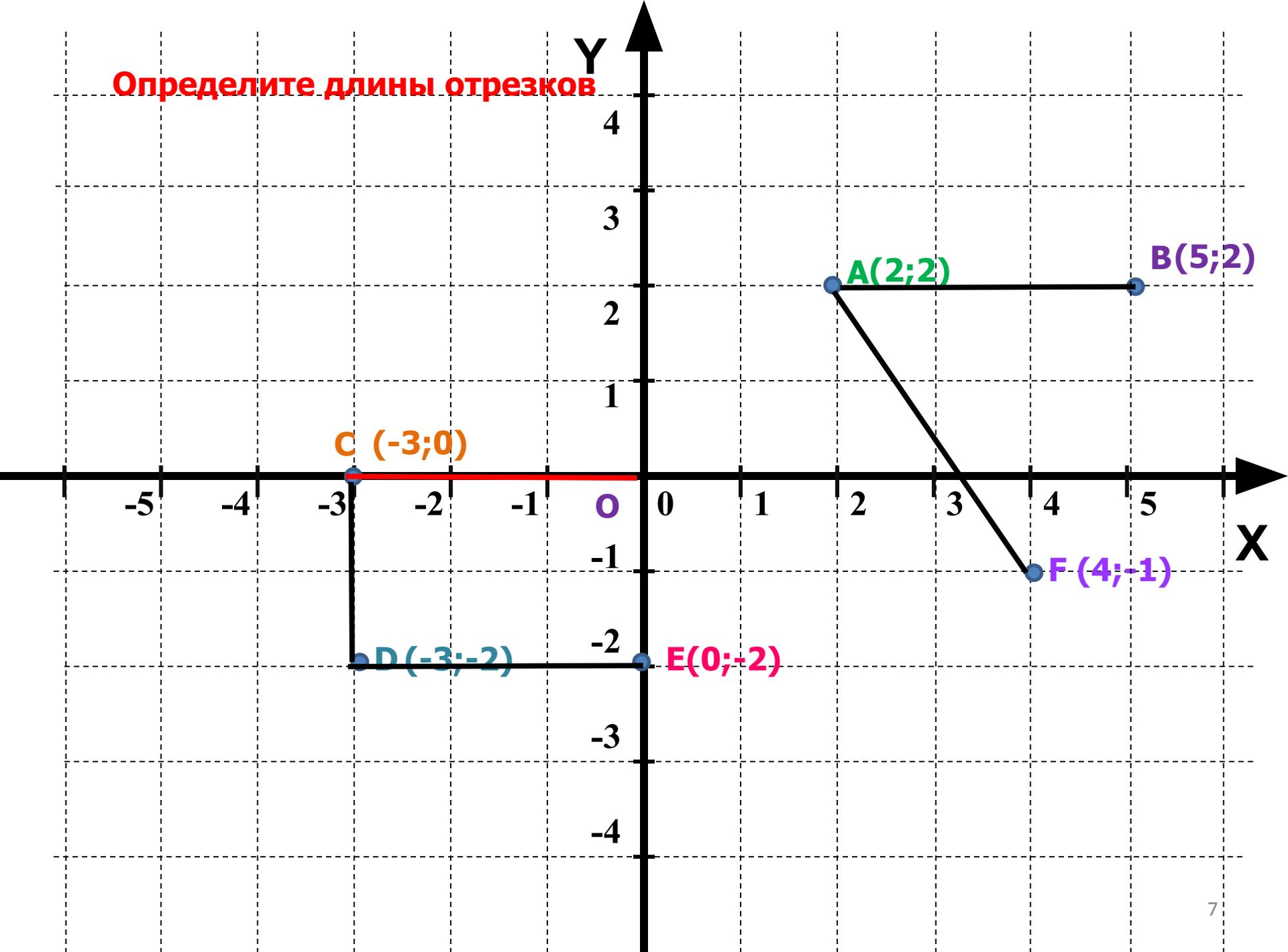
Чему равно расстояние между точками A и B координатной прямой, если:

- 1) $A (3)$ и $B (7)$; 3) $A (-2)$ и $B (-6)$;
2) $A (-2)$ и $B (4)$; 4) $A (a)$ и $B (b)$?

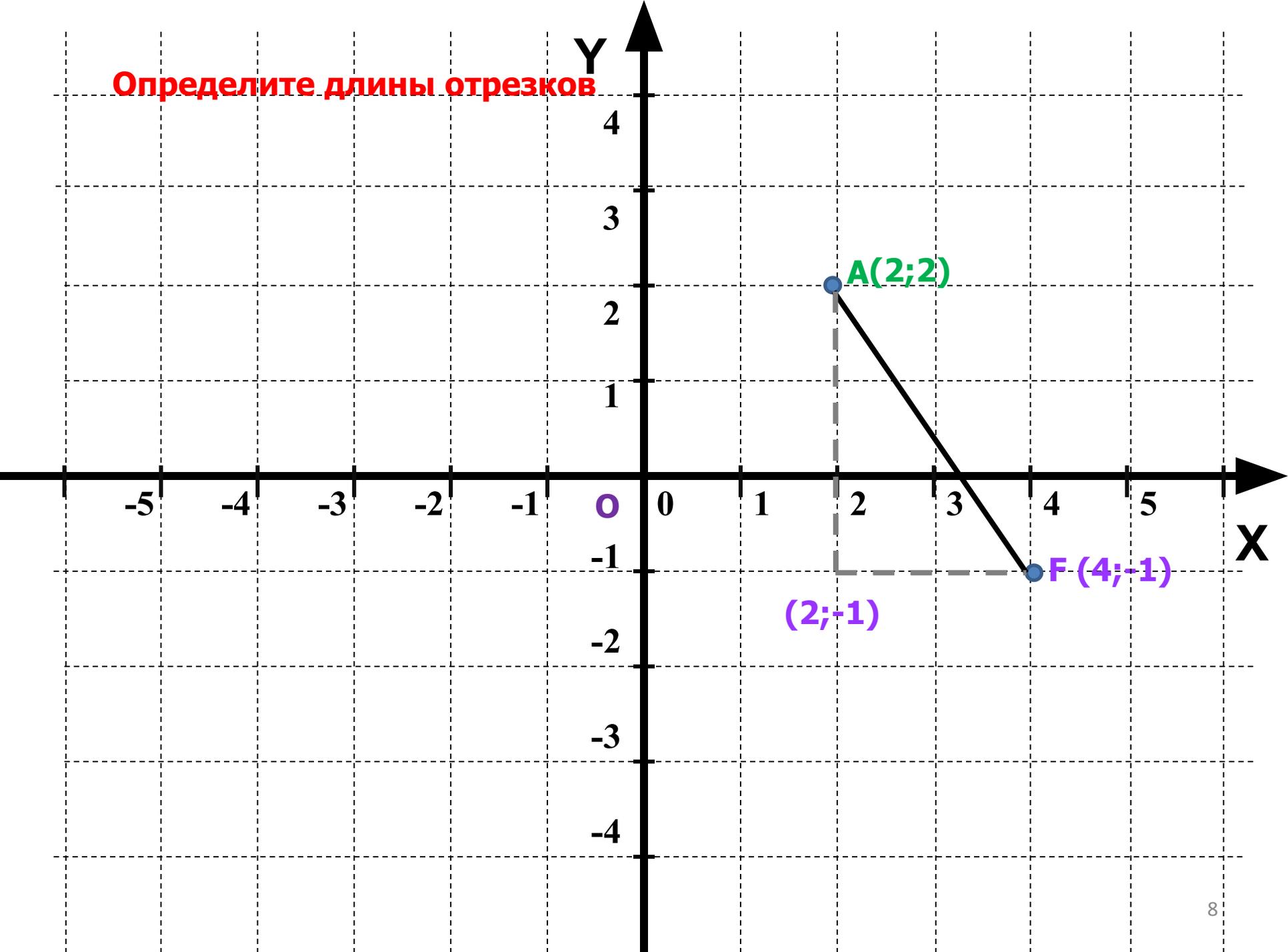


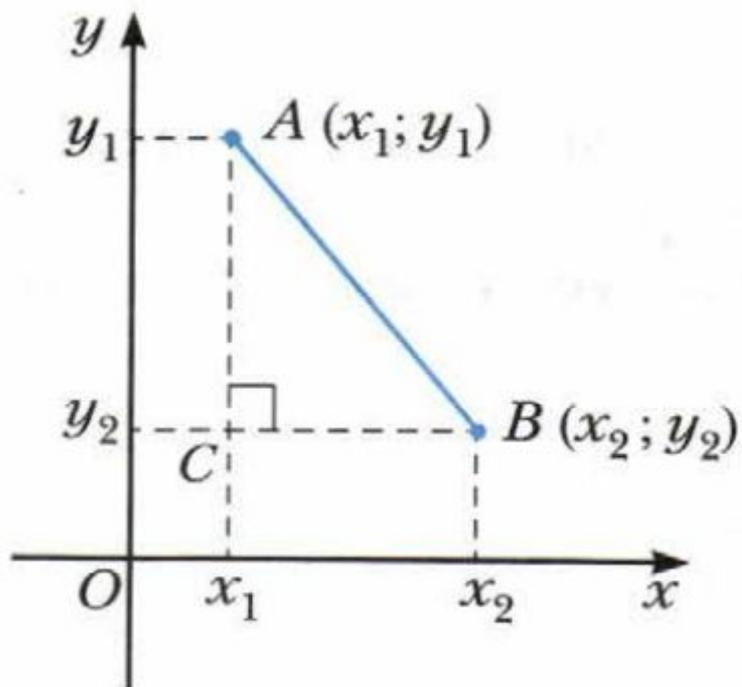
$$AB = |x_2 - x_1|.$$

Определите длины отрезков



Определите длины отрезков





Тогда формулу **расстояния между точками** $\bar{A} (x_1; y_1)$ и $\bar{B} (x_2; y_2)$ можно записать так:

$$AB = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Задача 1. Докажите, что треугольник с вершинами в точках $A (-1; 7)$, $B (1; 3)$ и $C (5; 5)$ является равнобедренным прямоугольным.

$$AB = \sqrt{(1 + 1)^2 + (3 - 7)^2} = \sqrt{4 + 16} = \sqrt{20};$$

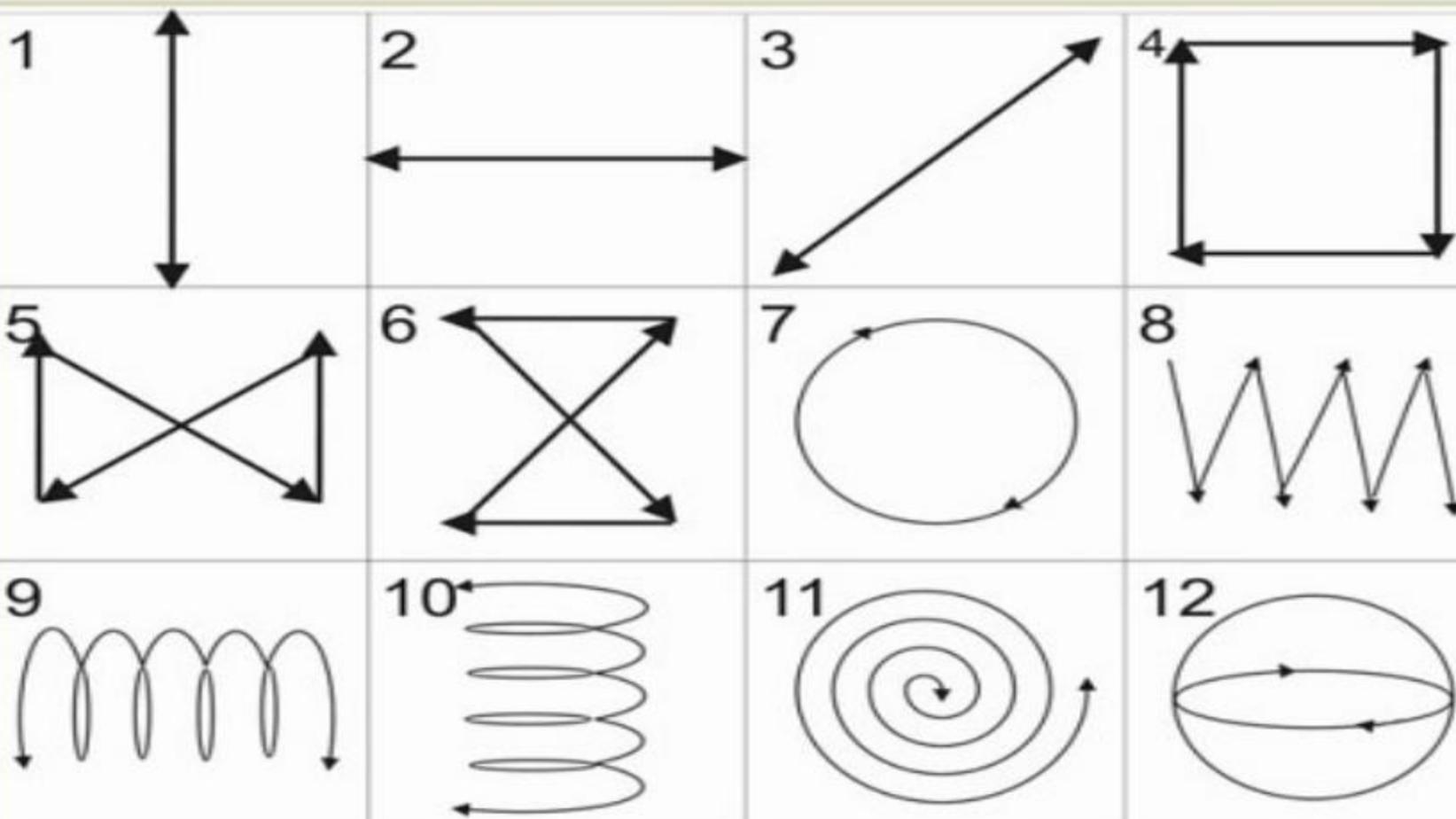
$$BC = \sqrt{(5 - 1)^2 + (5 - 3)^2} = \sqrt{16 + 4} = \sqrt{20};$$

$$AC = \sqrt{(5 + 1)^2 + (5 - 7)^2} = \sqrt{36 + 4} = \sqrt{40}.$$

$AB = BC$, т. е. $\triangle ABC$ – равнобедренный.

Так как $AB^2 + BC^2 = 20 + 20 = 40 = AC^2$, то $\triangle ABC$ – прямоугольный.

Физминутка для глаз



Координаты середины отрезка

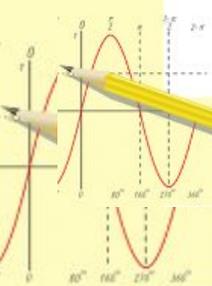
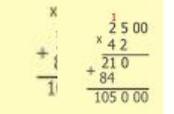
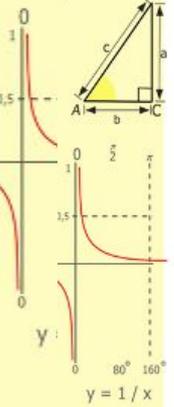
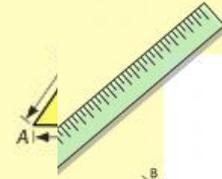
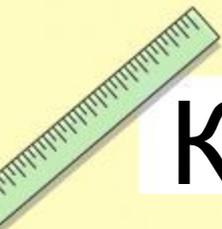
C

B

A(8;0)
B(-6;4)

A(5;12)
B(4;4)

A(6;8)
B(10;4)



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

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

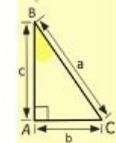
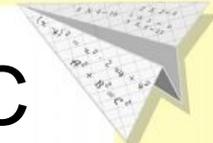
$$\sin 90^\circ = 1$$

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

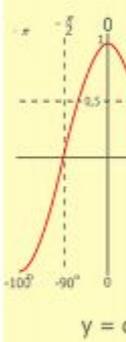
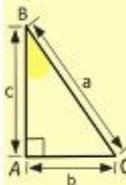
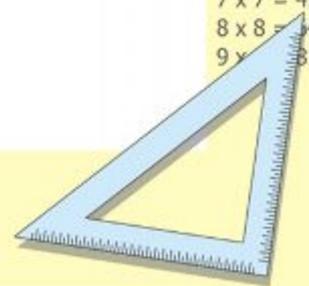
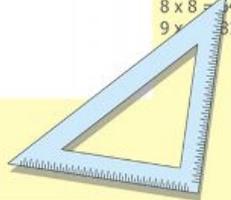
$$\begin{cases} y = 1 \\ x = 25 + 45 \\ x = 70 \end{cases}$$

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

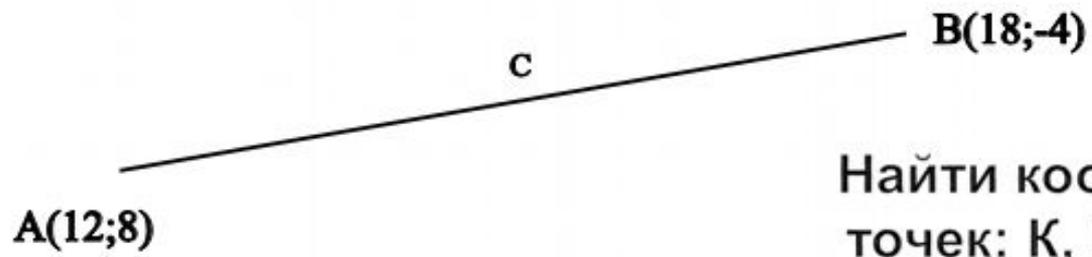
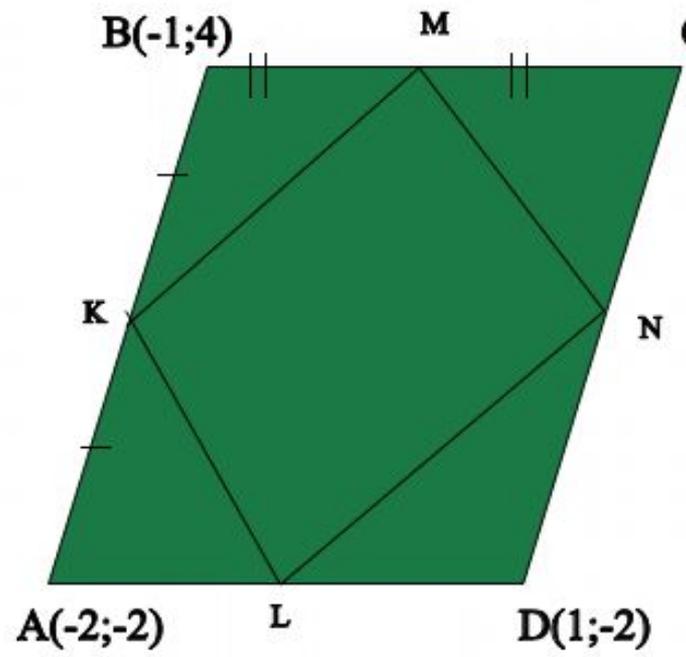
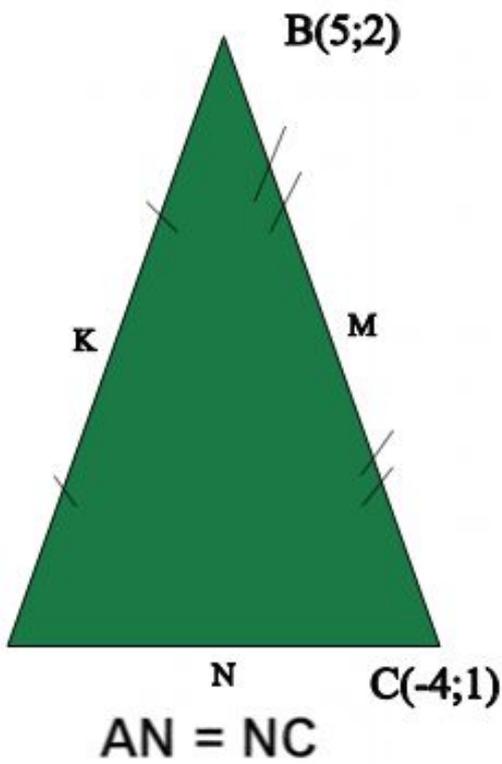
$$\begin{cases} x = 25 + 45 \\ x = 70 \end{cases}$$



- 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



- 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



Найти координаты точек: К, М, N, L, С

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

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

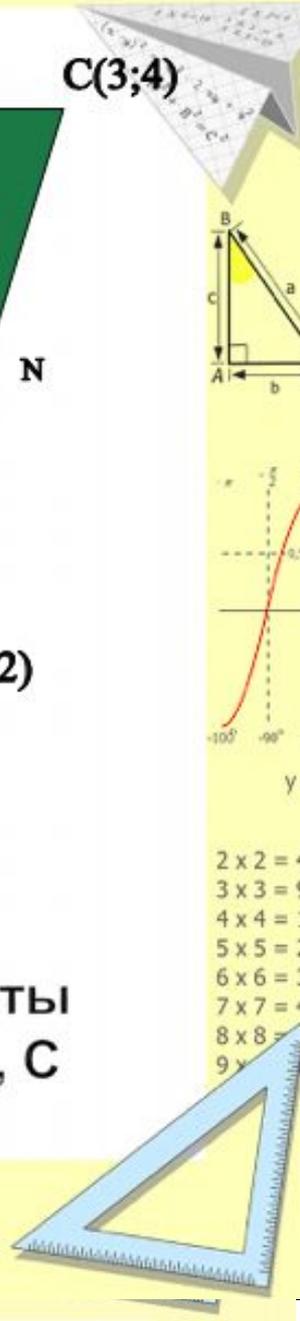
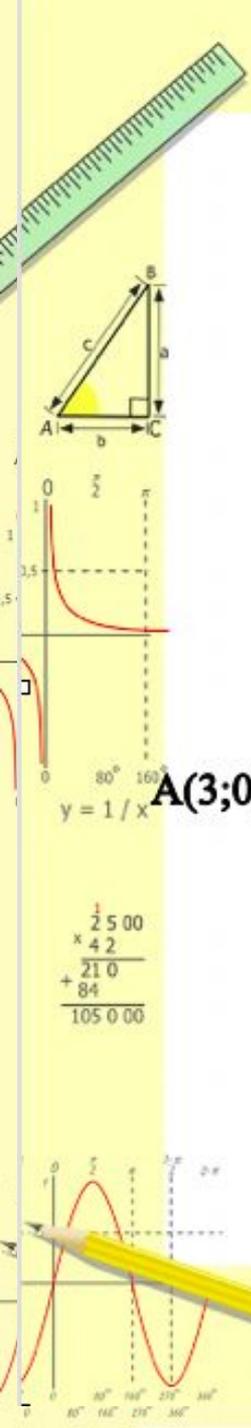
$\sin 90^\circ = 1$

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

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

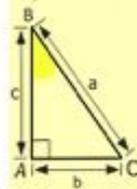
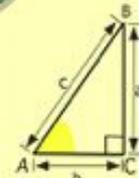
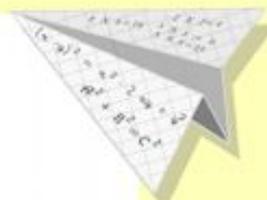
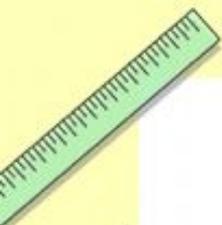
$$\frac{x = 70}{x = /U}$$

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



Домашнее задание:

п.8 №292; №298; №300



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

- 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

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

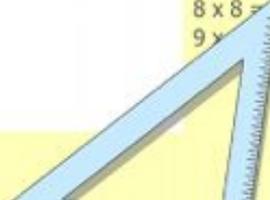
$$b = \frac{a+b}{c}$$

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



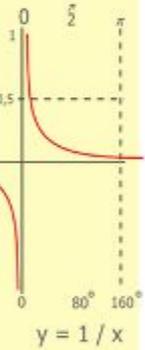
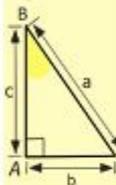
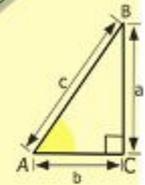
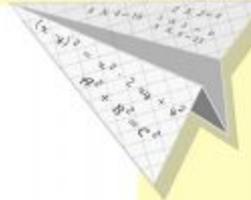
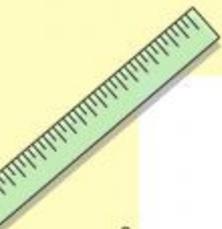
$$\begin{cases} y = \sin 90 \\ x = 25y + 45 \end{cases}$$

$$\begin{cases} y = 1 \\ (x+y)(a+b) \end{cases}$$



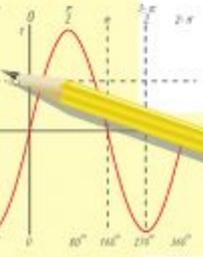
Итог урока

- У меня все получилось
- Я сегодня ошибся, но смог исправить свою ошибку
- Я сегодня допускал ошибки, но у меня обязательно все получится



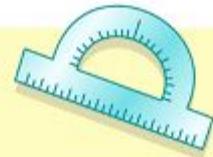
$$\begin{array}{r} \frac{1}{2} 500 \\ \times 42 \\ + 210 \\ \hline 105000 \end{array}$$

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



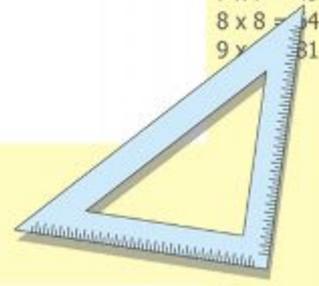
$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$
$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

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



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

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



*Спасибо
за урок!*