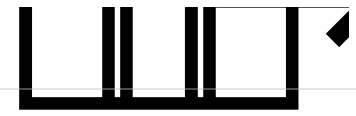


Векторы

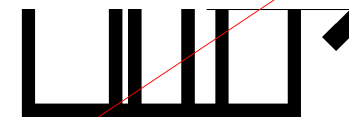
9 класс



AB



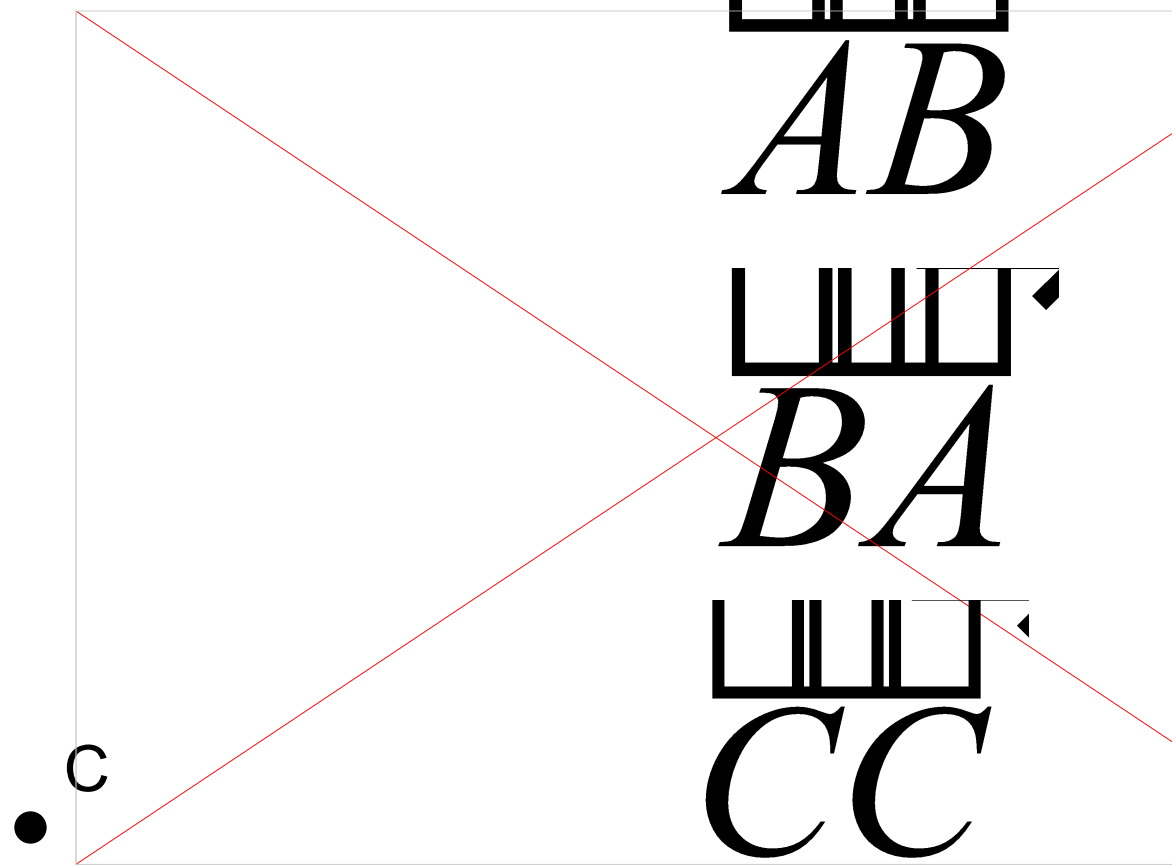
AB

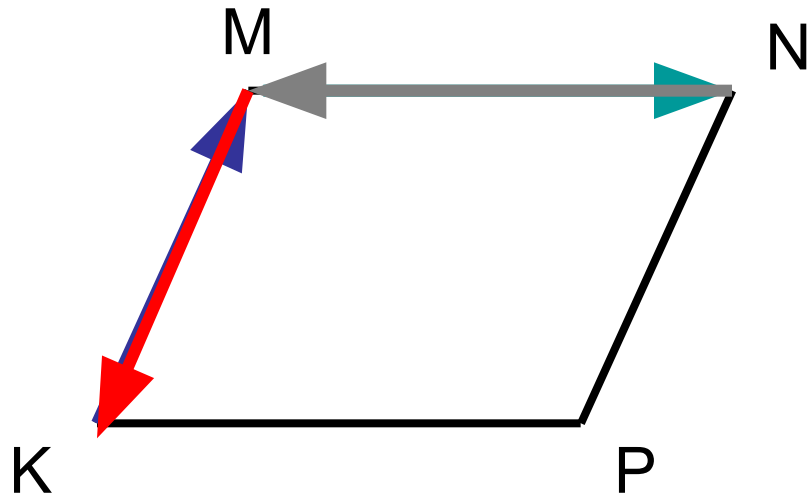


BA



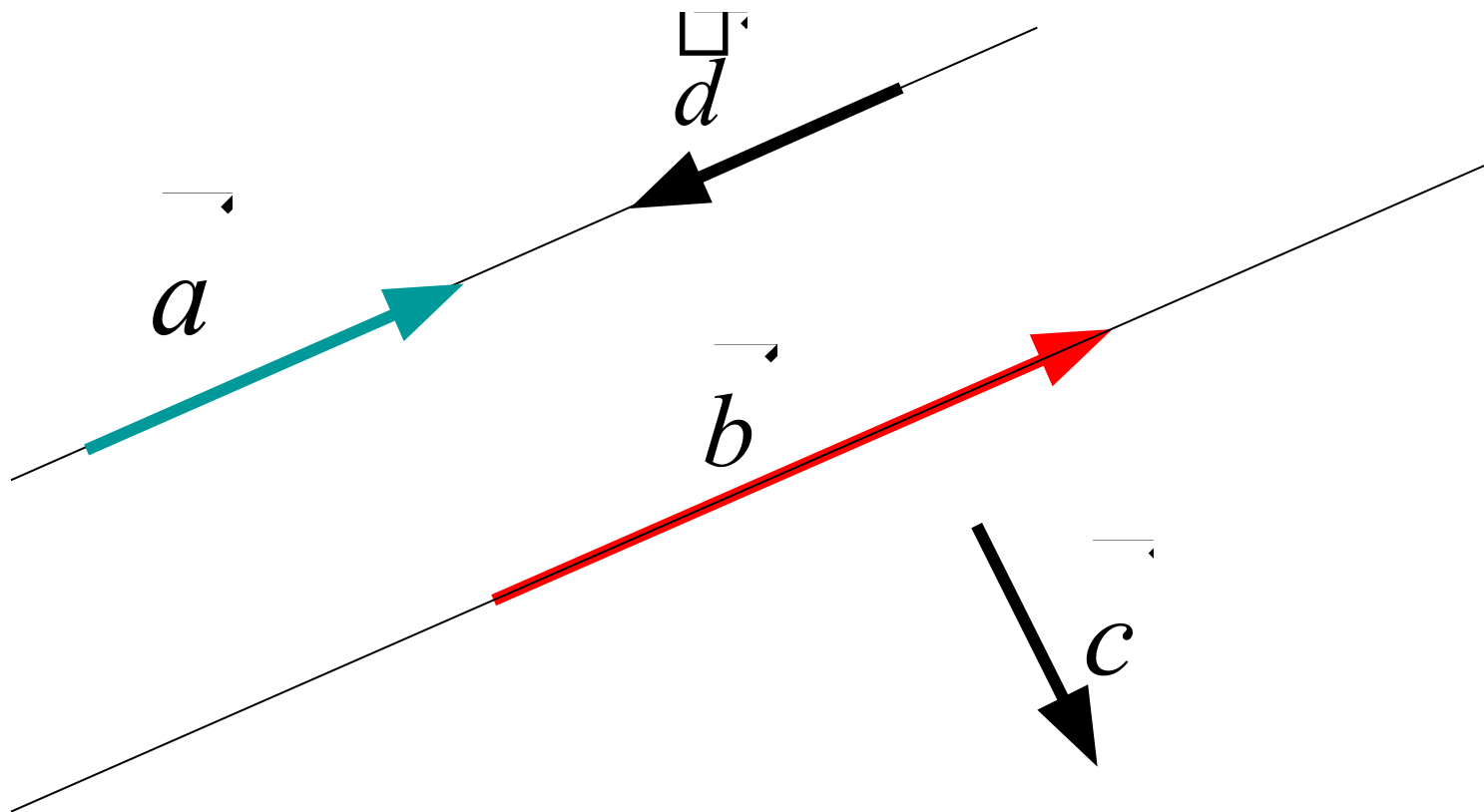
CC



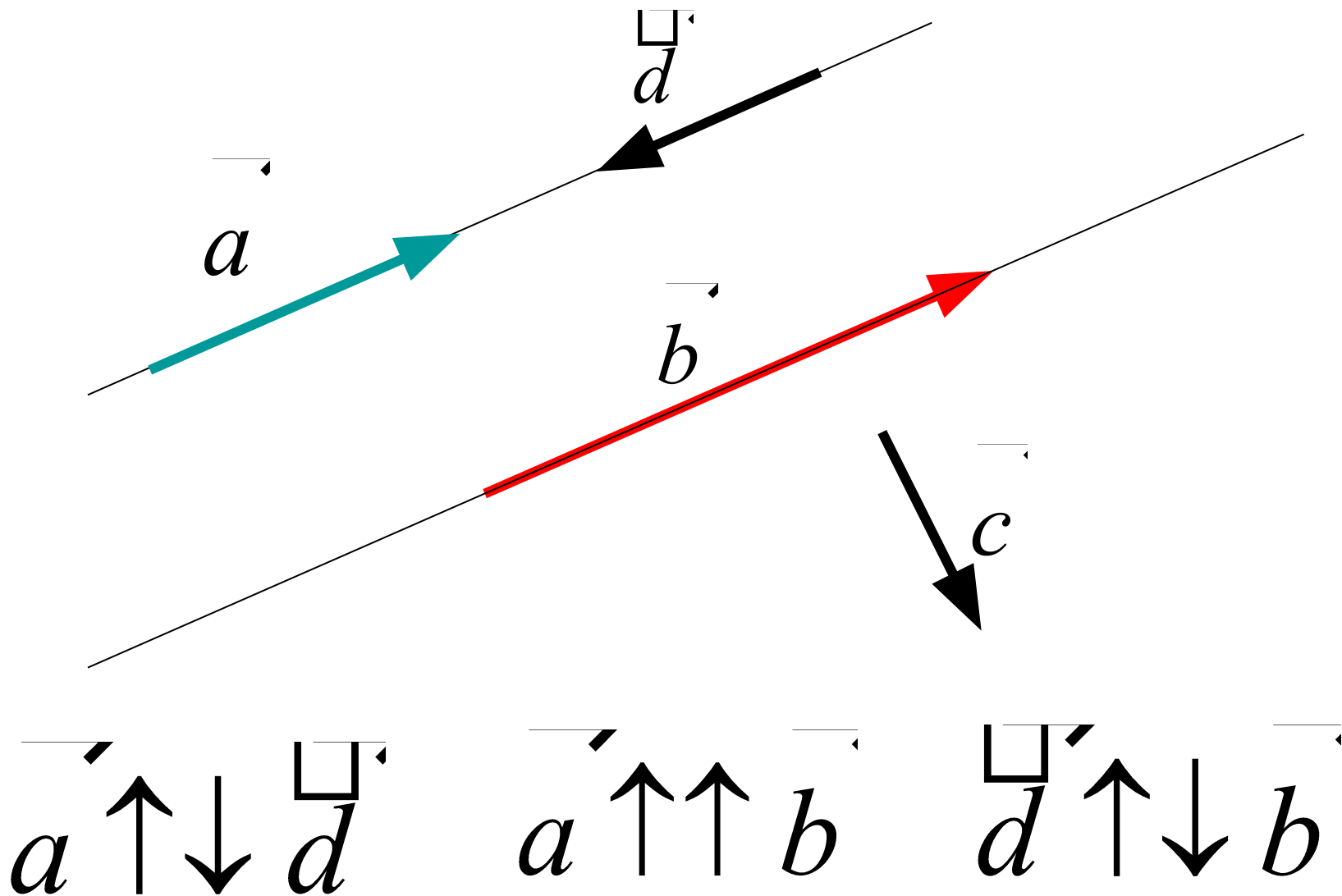


$$\overrightarrow{KM} \stackrel{?}{=} \overrightarrow{MK}$$

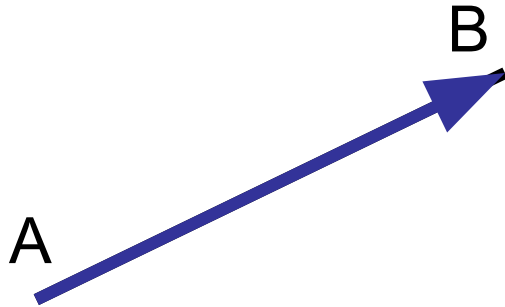
Коллинеарные вектора



Коллинеарные векторы



Длина (модуль) вектора



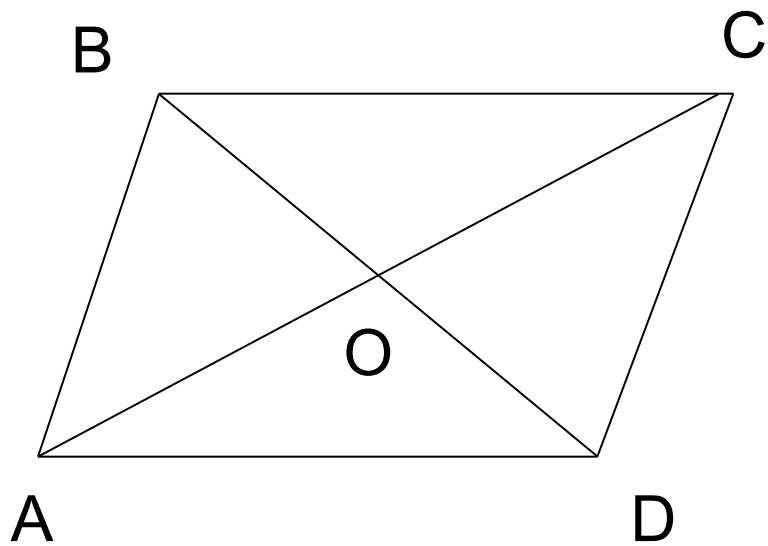
$$AB = 15 \text{ см}$$

$$\left| \overrightarrow{AB} \right| = AB$$

$$\left| \overrightarrow{AB} \right| = 15 \text{ см}$$



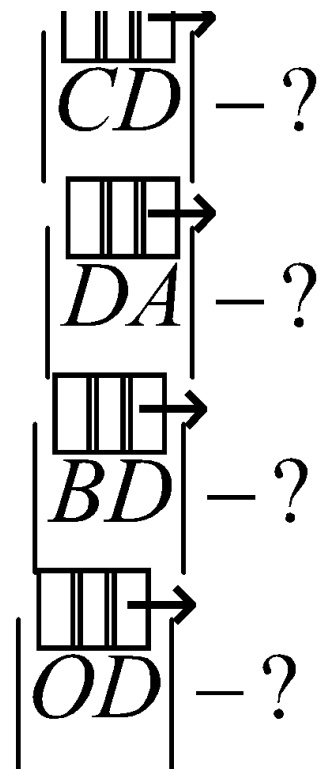
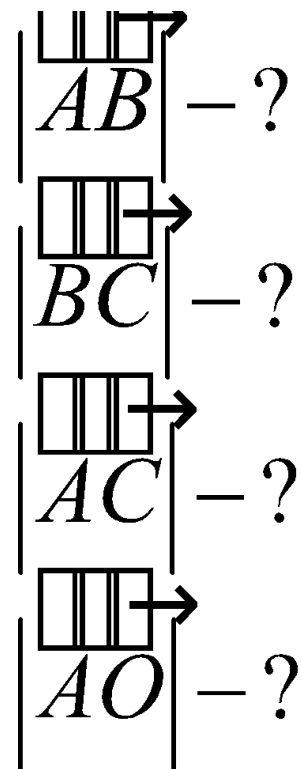
$$\left| \overrightarrow{MM} \right| = 0$$



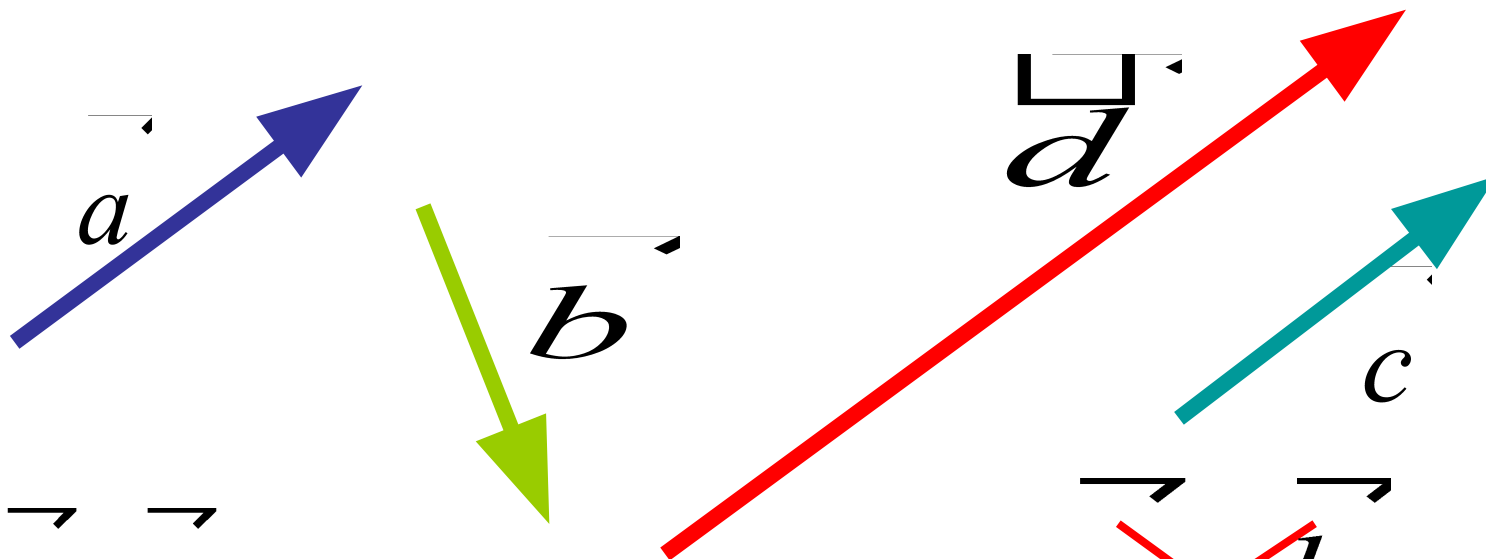
$$AB = 5$$

$$CD = 8$$

$$AC = 12$$



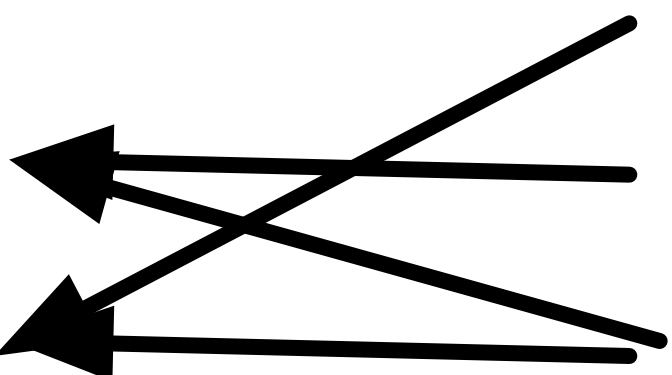
Векторы называются равными, если они сонаправлены и их длины равны



$$\vec{a} = \vec{c}$$

$$1) \vec{a} \uparrow \uparrow \vec{c}$$

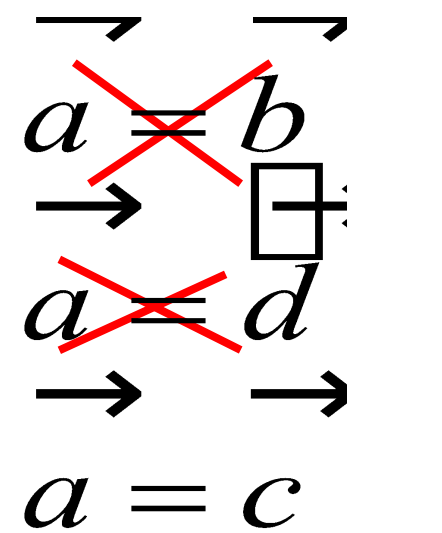
$$2) |\vec{a}| = |\vec{c}|$$



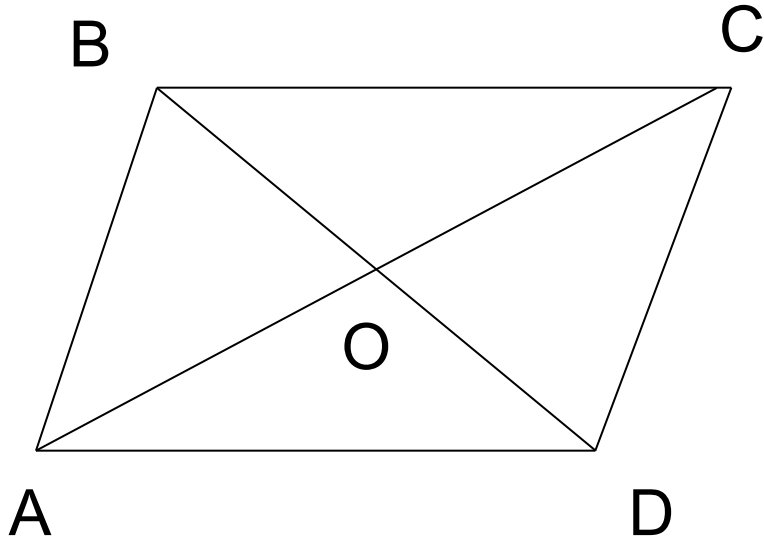
~~$$\vec{a} = \vec{b}$$~~

~~$$\vec{a} = \vec{d}$$~~

$$\vec{a} = \vec{c}$$

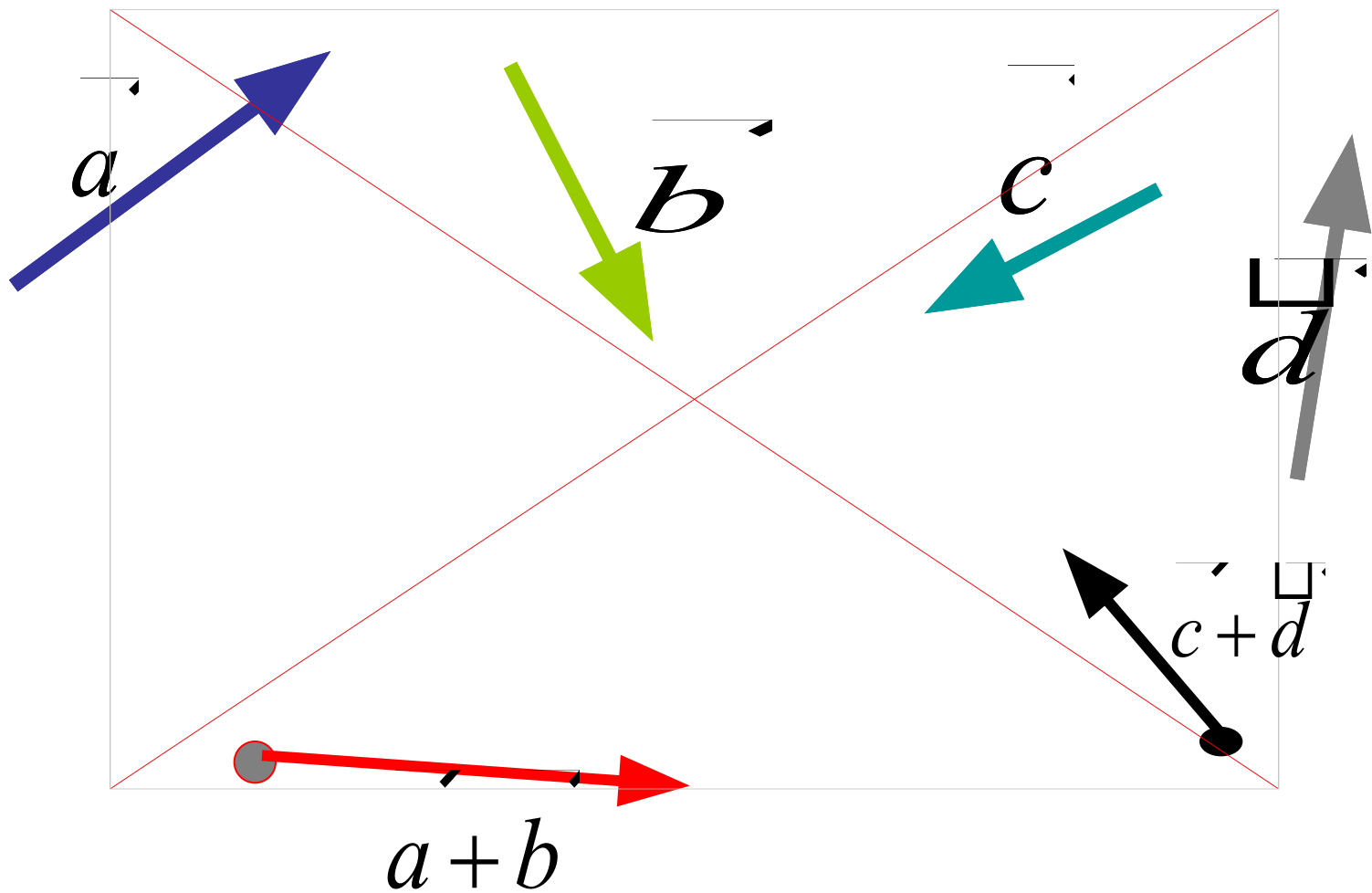


Равны ли векторы?

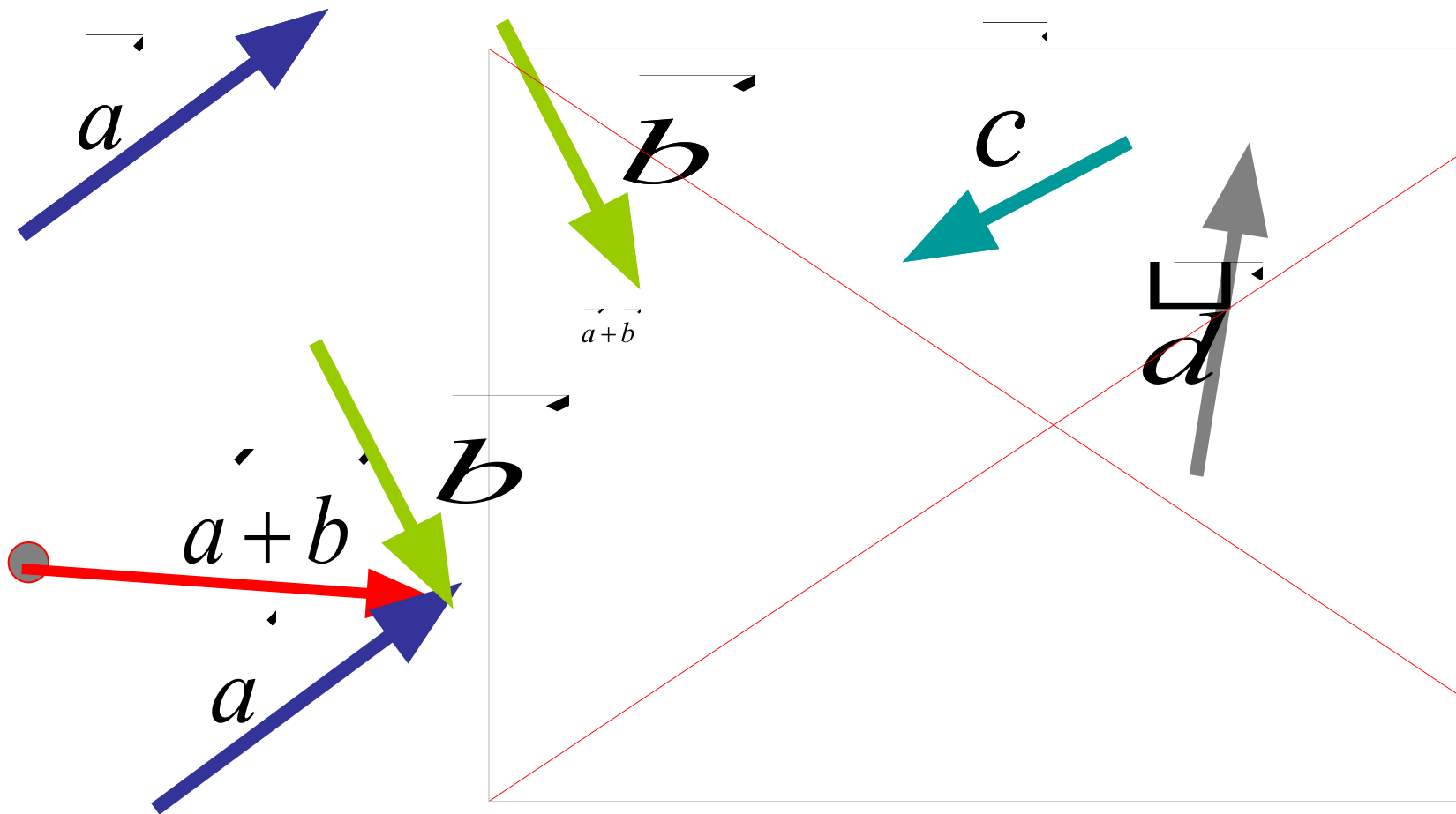


- | | | | | |
|--|--------|--|------|---|
| | AB и | | BC | — |
| | BC и | | DA | — |
| | BC и | | AD | + |
| | AO и | | BO | — |
| | BO и | | OD | + |

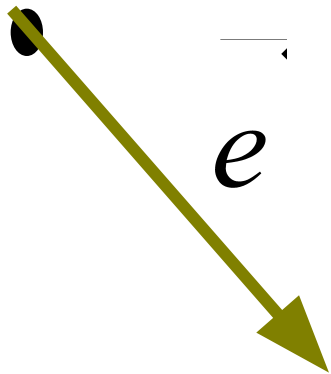
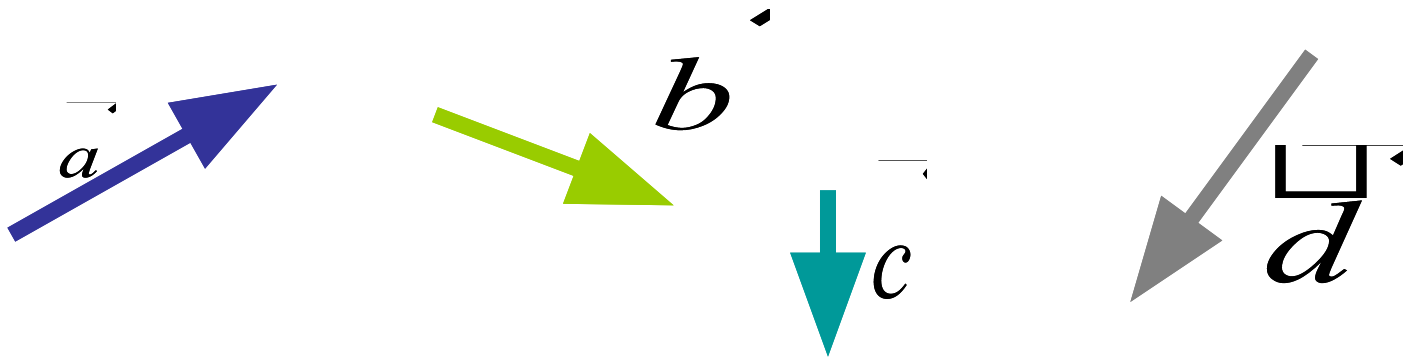
Сложение векторов. Правило треугольника



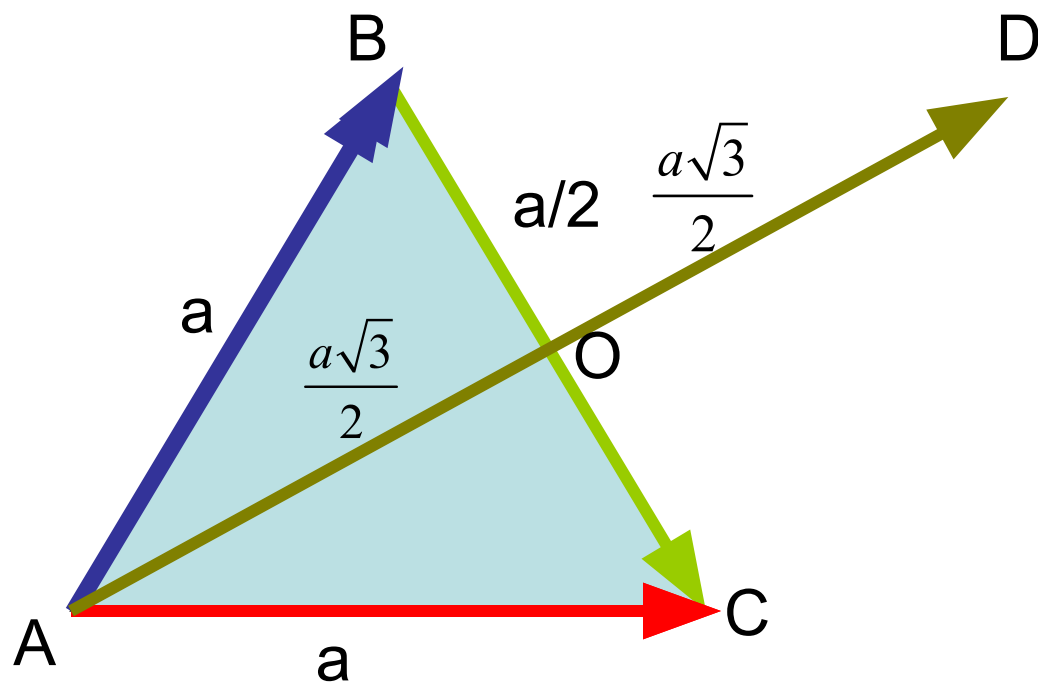
Сложение векторов. Правило параллелограмма



Сложение векторов. Правило многоугольника



$$\vec{a} + \vec{b} + \vec{c} + \vec{d} = \vec{e}$$



$AB=BC=AC=a$

$$\left| \begin{array}{c} \overrightarrow{AB} + \overrightarrow{BC} \\ \overrightarrow{AB} + \overrightarrow{CB} \end{array} \right| =$$