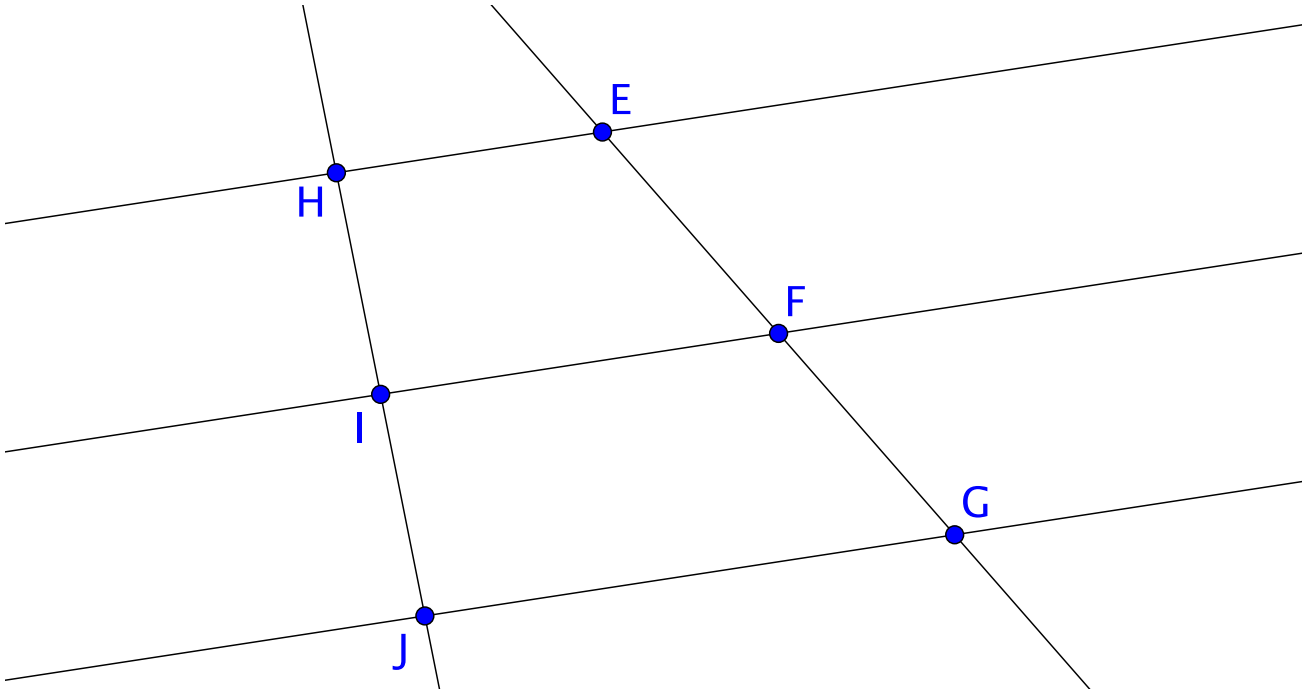
Some notes from class

2018-02-28

Parallel lines and distance

Theorem (Euclidean geometry)

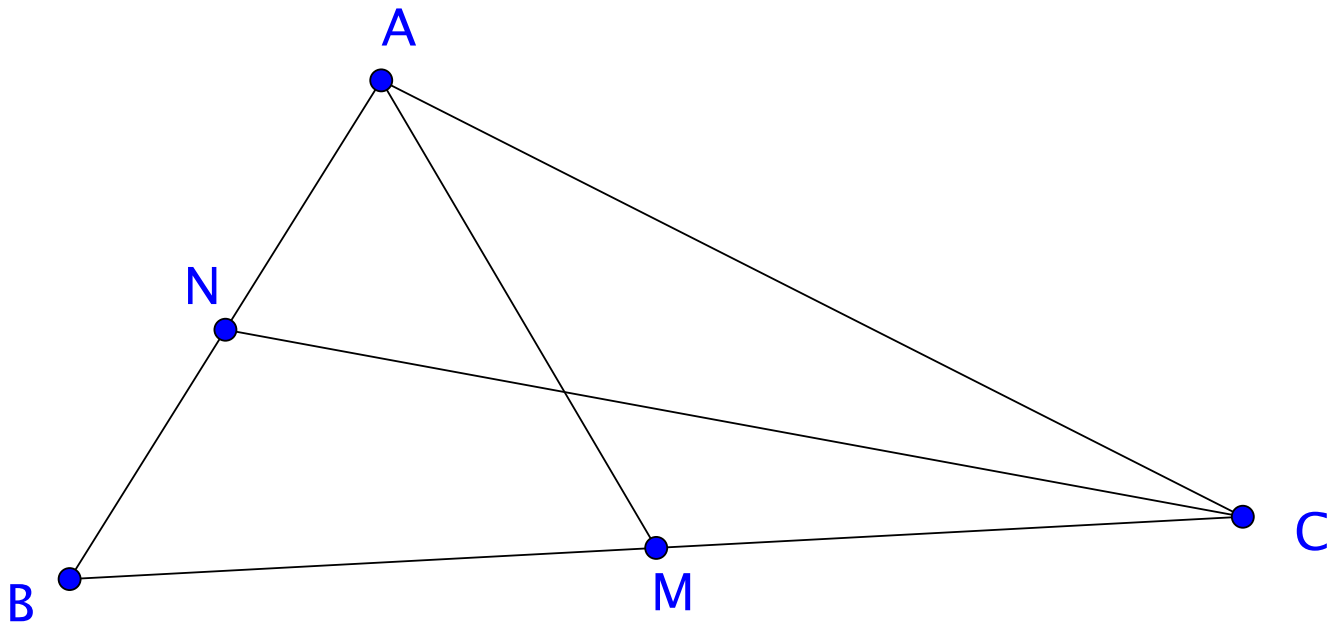
If a transversal intersects three parallel lines in such a way as to make congruent segments between the parallel lines, then every transversal intersecting these parallel lines will do the same.



Median concurrence theorem

Theorem (Euclidean geometry)

Let $\overleftrightarrow{AM}$ be a median of $\triangle ABC$ with $M \in \overline{BC}$. If $\overleftrightarrow{CN}$ is a median, with $n \in \overline{AB}$, then $\overleftrightarrow{CN}$ intersects $\overline{AM}$ at a point $\frac{2}{3}$ of the way from A to M.



Area of parallelogram

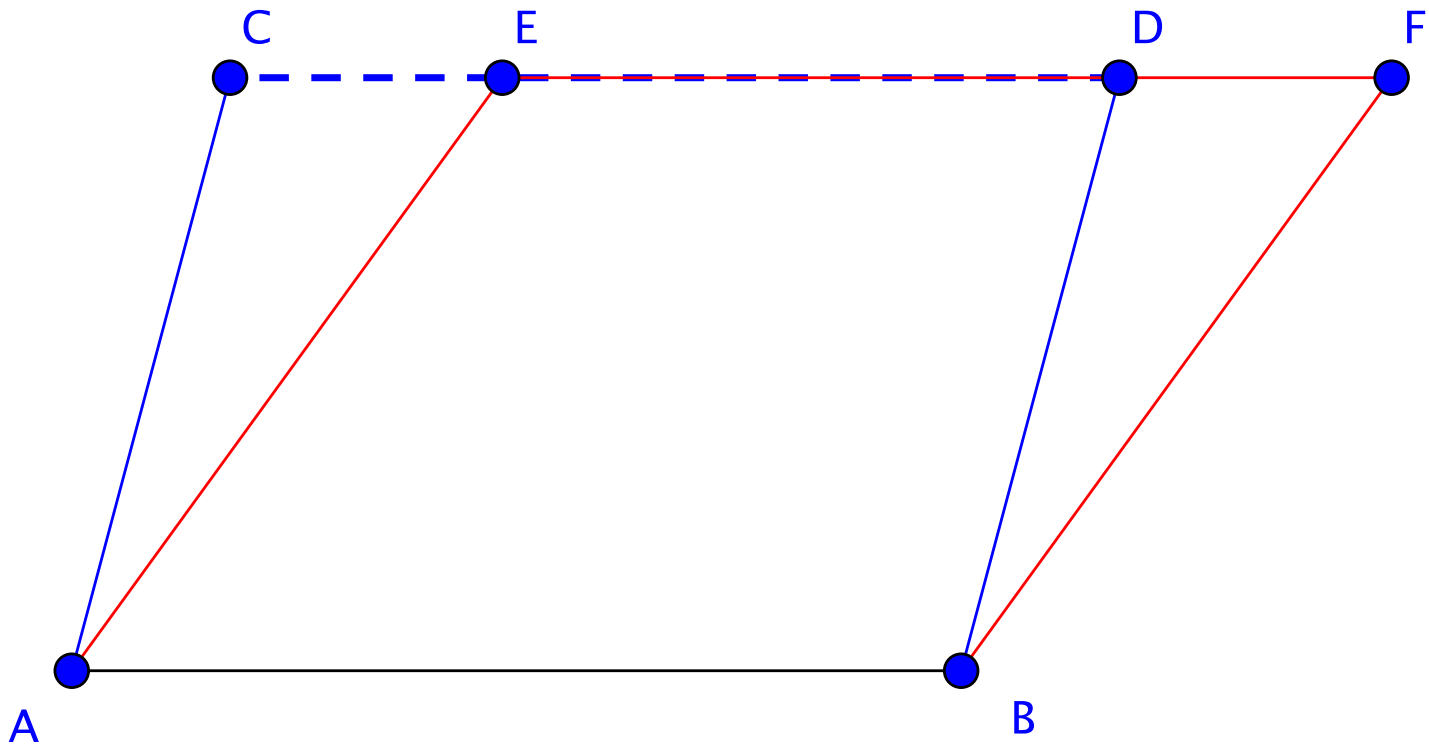
Theorem (Euclidean geometry)

Suppose $\Diamond ABCD$ is a parallelogram, and let E and F be points on line $\overleftrightarrow{CD}$ with $EF = CD$. Then the area of $\Diamond ABDC$ is equal to the area of $\Diamond ABFE$.

Area of parallelogram

Theorem (Euclidean geometry)

Suppose $\lozenge ABCD$ is a parallelogram, and let E and F be points on line $\overleftrightarrow{CD}$ with $EF = CD$. Then the area of $\lozenge ABDC$ is equal to the area of $\lozenge ABFE$.



Area of parallelogram

Theorem (Euclidean geometry)

Suppose $\lozenge ABCD$ is a parallelogram, and let E and F be points on line $\overleftrightarrow{CD}$ with $EF = CD$. Then the area of $\lozenge ABDC$ is equal to the area of $\lozenge ABFE$.