

10 Items: the Power of GeoGebra in Math Lessons

1. The drag mode in geometry: basic objects can be moved. GEOMETRICAL CONSTRUCTIONS (e.g. midpoints, perpendicular lines, ...) that are based on the geometric objects remain. So you can generate a lot of examples to discover special geometrical properties.
2. Dynamic of angles, segments, areas in order to discover properties (e.g. sum of angles in triangles, polygons)
3. Adding lines, circles, hiding lines or other objects, moving areas, a lot of editing features ... All these functions help to find ideas for proofs or can be used to prepare visual proofs of geometrical theorems.
4. Generating loci of chosen points when basic points are moved to explore relations in geometrical constructions or in graphs (change of a maximum according to a parameter in the equation of the function).
5. Using transformation tools (transformations of constructions made before) to create tessellations.
6. Easy way to program tools for working on more complex constructions e.g. a trefoil.
7. Using sliders to change measurements into a construction or change parameters in a given equation of a function a graph, e.g. explore the meaning of a , b , c in quadratic functions.
8. Automatically generating equations of polynomials by specifying a number of (movable points) in a coordinate systems
9. A lot of build-in features (conics, GeoGebra-spreadsheets, testing properties like parallelism, ...) or the opportunity to reduce the amount of construction tools to own needs
10. A huge catalog of functions (calculus, statistics, algebra, ...) that can be used to check own calculations made by hand before.
11. Different built-in features for analysis and integration and discussing functions, approximating of curves e.g. by polynomials are possible.