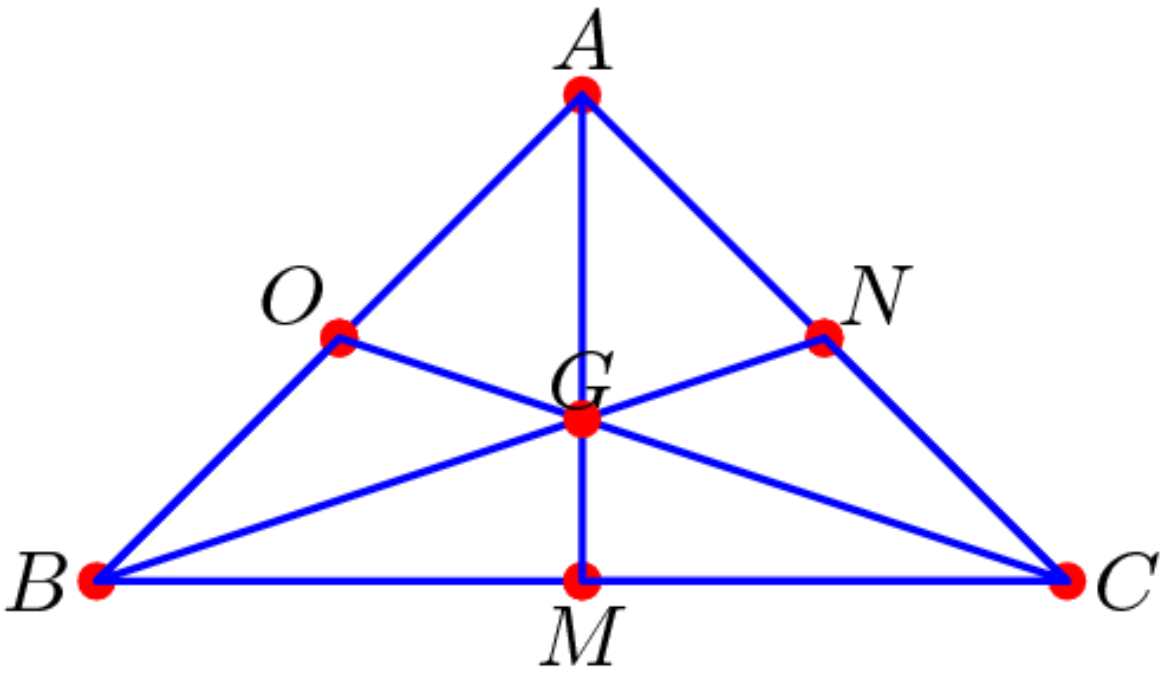

- A <u>median</u> is a line segment that goes from a <u>vertex</u> to the <u>midpoint</u> of the opposite side
- <u>Medians</u> cut <u>sides</u> in two <u>congruent</u> segments
  - $\overline{AO} \cong \overline{OB}$
  - $\overline{AN} \cong \overline{NC}$
  - $\overline{BM} \cong \overline{MC}$
- Where all three <u>medians intersect</u> is called the <u>centroid</u>
- <u>Medians</u> are partitioned in a <u>2:1 ratio</u>
  - From the <u>centroid</u> to the <u>midpoint</u> is considered **"1 part"**
    - $\overline{GM}, \overline{GN}, \overline{GO}$
  - From the <u>vertex</u> to the <u>centroid</u> is considered **"2 parts"**
    - $\overline{AG}, \overline{BG}, \overline{CG}$
  - The entire <u>median</u> is considered **"3 parts"**
    - $\overline{AM}, \overline{BN}, \overline{CO}$
- Every problem about lines inside the triangle (aka the <u>medians</u>) can be solved using the following proportion:
  - $\frac{\textbf{given}}{\textbf{number of parts for the given}} = \frac{x}{\textbf{number of parts for what you are looking for}}$