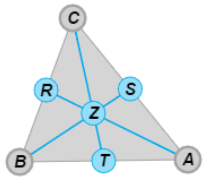
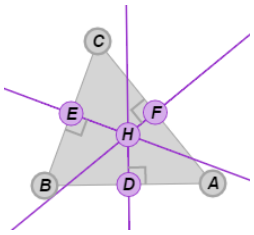
Vocabulary: Concurrent Lines, Medians, and Altitudes

Vocabulary

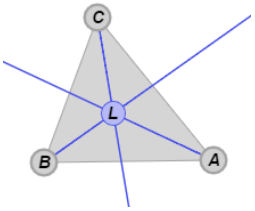
- Altitude – a line that passes through a vertex of a figure and is perpendicular to the opposite side.
- Bisector – a line, segment, or ray that divides a figure into two congruent parts.
- Centroid – the point where the medians *o*f a triangle intersect.
  - The medians of Δ*ABC* shown to the right are $\overline{AR}$, $\overline{BS}$, and $\overline{CT}$.
  - The medians intersect at point *Z*, the centroid of Δ*ABC*.



- Circumcenter – the point where the perpendicular bisectors of a triangle intersect.
  - The perpendicular bisectors of Δ*ABC* shown to the right are $\overleftrightarrow{DH}$, $\overleftrightarrow{EH}$, and $\overleftrightarrow{FH}$.
  - The perpendicular bisectors intersect at point *H*, the circumcenter of Δ*ABC*.



- Circumscribed circle – a circle on which all vertices of a figure lie.
- Concurrent – meeting at a point.
  - The point where concurrent lines intersect is called the *point of concurrency*.
- Incenter – the point where the angle bisectors of triangle intersect.
  - The angle bisectors of Δ*ABC* shown to the right intersect at point *L*, the incenter of Δ*ABC*.



- Inscribed circle – a circle that fits inside of a figure and touches each side of the figure at exactly one point.
- Median (of a triangle) – a line that passes through a vertex of a triangle and the midpoint of the opposite side.
- Orthocenter – the point where the altitudes of a triangle intersect.
  - The altitudes of Δ*ABC* shown to the right are $\overline{AM}$, $\overline{BN}$, and $\overline{CP}$.
  - The altitudes intersect at point *Q*, the orthocenter of Δ*ABC*.