

altitude of a triangle

centroid

circumcenter

concurrent

equidistant

incenter

median of a triangle

midsegment of a triangle

orthocenter

point of concurrency

perpendicular bisector

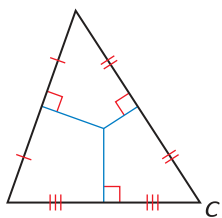
angle bisector

midpoint formula

slope formula

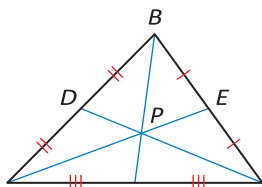
**how to find slope of a
perpendicular line**

The point of concurrency of the three perpendicular bisectors of a triangle



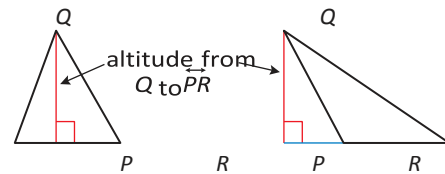
P is the circumcenter of ABC .

The point of concurrency of the three medians of a triangle

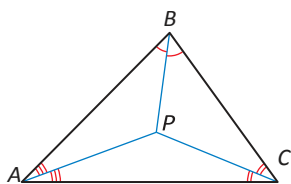


P is the centroid of ABC

The perpendicular segment from a vertex of a triangle to the opposite side or to the line that contains the opposite side

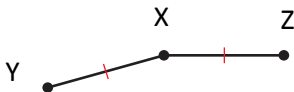


The point of concurrency of the angle bisectors of a triangle



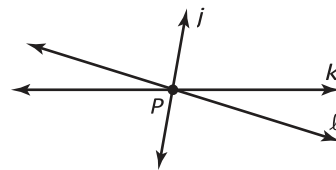
P is the incenter of ABC .

A point is equidistant from two figures when it is the same distance from each figure.



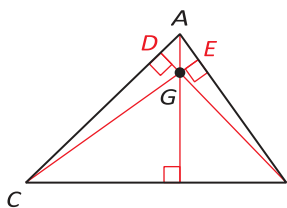
X is equidistant from Y and Z.

Three or more lines, rays, or segments that intersect in the same point



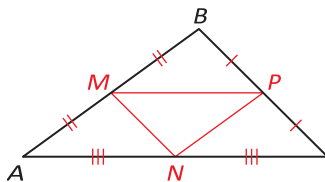
Lines j , k , and l are concurrent.

The point of concurrency of the lines containing the altitudes of a triangle



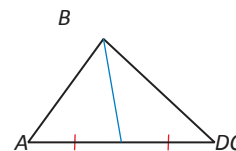
G is the orthocenter of ABC .

A segment that connects the midpoints of two sides of a triangle



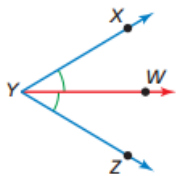
\overline{MP} , \overline{MN} , and \overline{NP} are midsegments of $\triangle ABC$

A segment from a vertex of a triangle to the midpoint of the opposite side



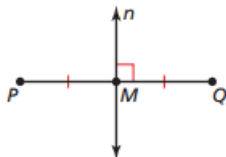
\overline{BD} is a median of ABC .

A ray that divides an angle into two angles that are congruent



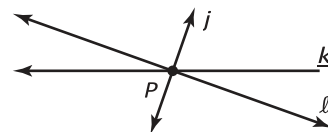
\overrightarrow{YW} bisects $\angle XYZ$, so $\angle XYW \cong \angle ZYW$

A line that is perpendicular to a segment at its midpoint



Line n is the perpendicular bisector of \overline{PQ}

The point of intersection of concurrent lines, rays, or segments



P is the point of concurrency for lines j , k , and l .

Find the slope of the line by using $m = \frac{y_2 - y_1}{x_2 - x_1}$ or by counting the $\frac{\text{rise}}{\text{run}}$. Then flip and negate the slope.

$$m = \frac{y_2 - y_1}{x_2 - x_1} \text{ or count the } \frac{\text{rise}}{\text{run}}$$

The midpoint of points $A(x_1, y_1)$ and $B(x_2, y_2)$ can be found by $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

