**MEDIAN**

**Median:** A line segment from a vertex to the midpoint of the opposite side.

**Ex1.** Plot and connect the points J(4, 0), O(-5, 2) and B(1, 4) on the grid provided.

*** Median from J to OB:***

1. Determine the midpoint of OB algebraically.
2. Join J to that midpoint. Calculate the slope of the median. **(Remember, you have two points: J (4, 0), and the midpoint at (\_\_, \_\_).**
3. Determine the equation of the median in y=mx+b form.

***Median from O to JB: Median from B to OJ:***

**The three medians join at the: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**ALTITUDE**

**Altitude:** The perpendicular line segment from a vertex to the line that contains the opposite side.

**Ex2.** Plot and connect the points B (-4, -2), I (2, 8) and G (8, -2) on the grid provided.

***Altitude from B:***

1. Determine the slope of IG.

2. Draw a **perpendicular** line segment that intersects with line IG through B. Determine the slope this altitude. (**The opposite reciprocal of the slope of line IG)**

3. Determine the equation of this altitude. Remember, you have the slope and one point: slope =\_\_\_, and B (-4, -2).

***Altitude from I: Altitude from G:***

**The three altitudes join at the: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**PERPENDICULAR BISECTORS**

**Perpendicular Bisector:** a line (or line segment) that is perpendicular to a segment at its midpoint.

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**Ex3.** Plot and connect the points L(1, 4), A(-5, 2) and P(3, -2) on the grid provided.

***Perpendicular Bisector of LA:***

1. Determine the midpoint of LA.

2. Determine the slope of LA.

3. Draw a perpendicular line segment through the midpoint of LA. Determine the slope of right bisector. **(The opposite reciprocal of the slope of line segment LA)**

4. Determine the equation of this perpendicular bisector. Remember, you have the slope and one point: slope = \_\_\_\_ and the midpoint (\_\_, \_\_).

***Perpendicular Bisector of AP: Perpendicular Bisector of LP:***

**The three perpendicular bisectors join at the: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**