8/23 #4.3c

Welcome!

Ms. Walczak

DO NOW:

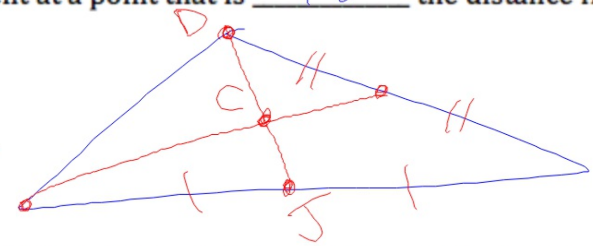
- **Turn in** any late homework to the bin on Ms. Walczak's desk.
- **Grab YOUR calculator** from the wall by the door.
- Take out your **Warm Up Sheet**.

Homework: Late work

Essential Question: How do you solve problems that involve measurements of triangles?

Median: A segment whose endpoints are on a vertex and the midpoint of the opposite side.

Theorem: The medians of a triangle are concurrent at a point that is 2/3 the distance from each vertex to the midpoint of the opposite side.

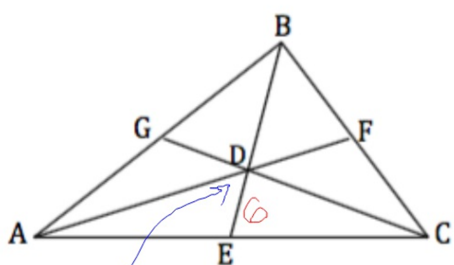


$DC = \frac{2}{3} DJ$

$CJ = \frac{1}{3} DJ$

Example 3:

D is the point of concurrency of the medians of ΔABC and *DE* = 6. G, F, and E are midpoints. Find *BE*.



$DE = \frac{1}{3} BE$

$3 \cdot 6 = \frac{1}{\cancel{3}} BE \cdot \cancel{3}$

$\boxed{18 = BE}$

Centroid: point of concurrency of median

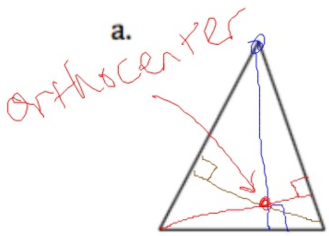
Altitude: $\perp$ segment from vertex of Δ to the line containing opposite side.

Example 4:

* Meet at <u>orthocenter</u>

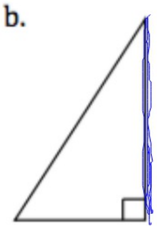
Draw the altitude of each triangle from the vertex closest to the top of the paper.

a.



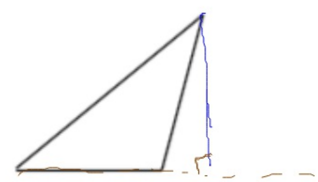
Acute Δ

b.



Right Δ

c.



Obtuse Δ

Example 5:

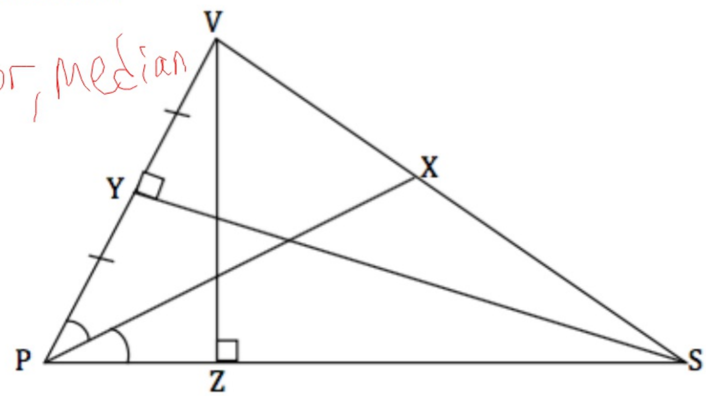
State which of the following (you may use more than one) can be used to describe each segment:

angle bisector, median, altitude, perpendicular bisector

a) $\overline{YS}$ altitude, ⊥ bisector, median

b) $\overline{PX}$ angle bisector

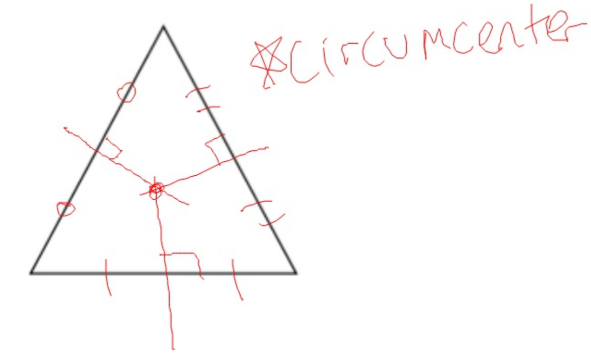
c) $\overline{VZ}$ altitude



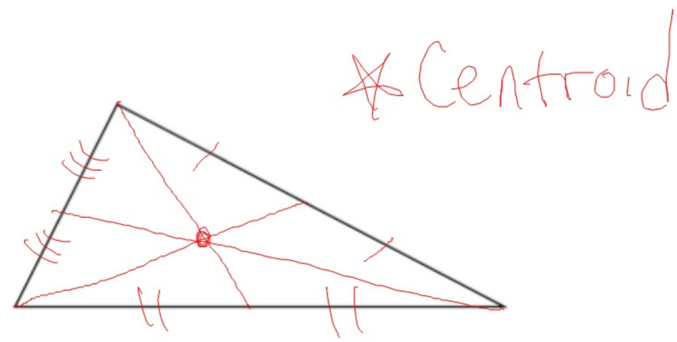
Example 6:

Draw in 3 lines such that they all fit the given description. Label your triangle precisely.

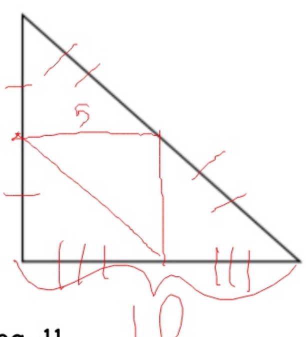
a. perpendicular bisector



b. median



c. midsegment



d. altitude