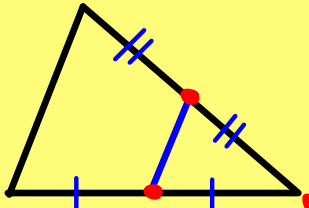
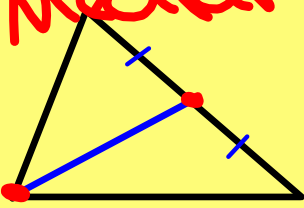
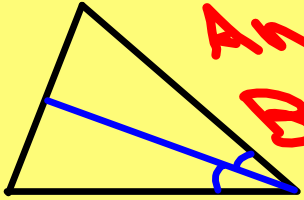


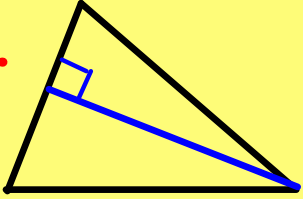
11/19/19 - Warm Up Problem

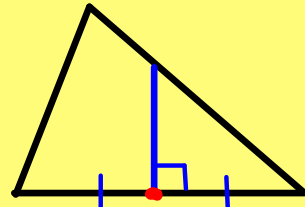
Identify the blue segment as a perpendicular bisector, angle bisector, median, altitude, or midsegment.

1.  Midsegment

2. Median 

3. Angle Bisector 

4. Altitude 

5. Perp. Bisector 

Concept 11 - Points of Concurrency

Goal: Identify points of concurrency for the special segments in triangles and discuss and use their properties

Go to this website.

<https://www.geogebra.org/m/gyvpjsav>

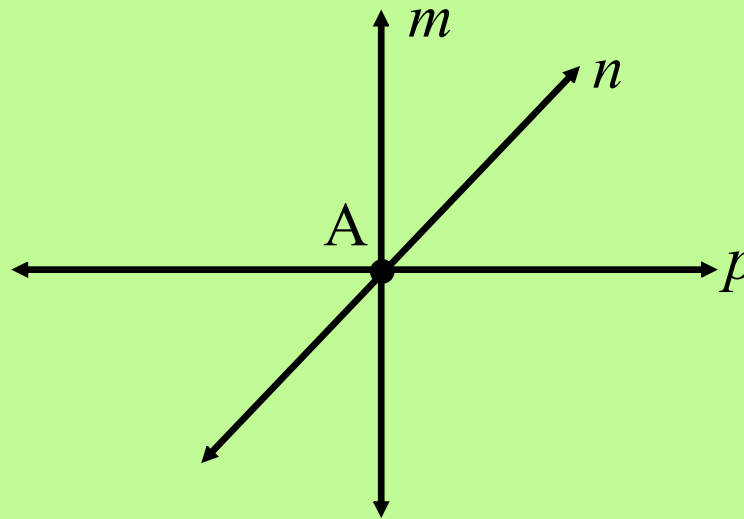
Use the toolbar to put a perpendicular bisector through each side of the triangle. What do you notice about the perpendicular bisectors?

Concurrency

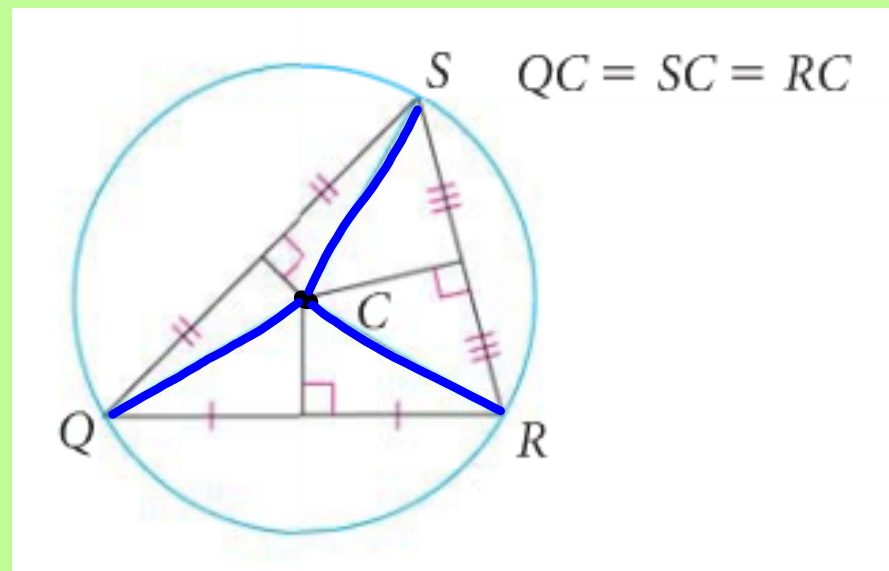
Concurrent: when three or more lines, segments, or rays all intersect at the same point

Point of Concurrency: the point of intersection of concurrent lines

Lines m , n , and p are concurrent. Point A is their point of concurrency.



Definition	Facts About
<p>CIRCUMCENTER:</p> <p>the point of concurrency of a triangle's 3 perpendicular bisectors</p>	<ul style="list-style-type: none">- it is equidistant from all 3 vertices- it is the center of a circle circumscribed around the triangle

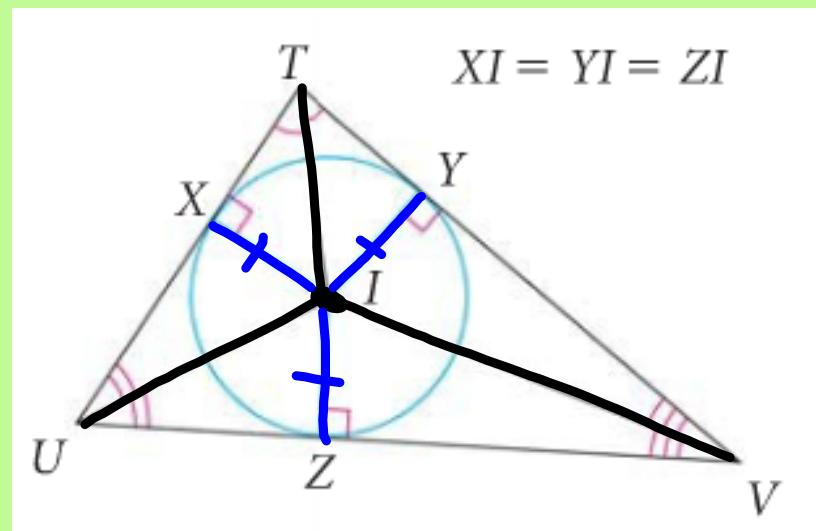


INCENTER:

the point of
concurrency of a
triangle's 3 angle
bisectors

- it is equidistant from all three
sides of the triangle

- it is the center of a circle
inscribed inside the triangle

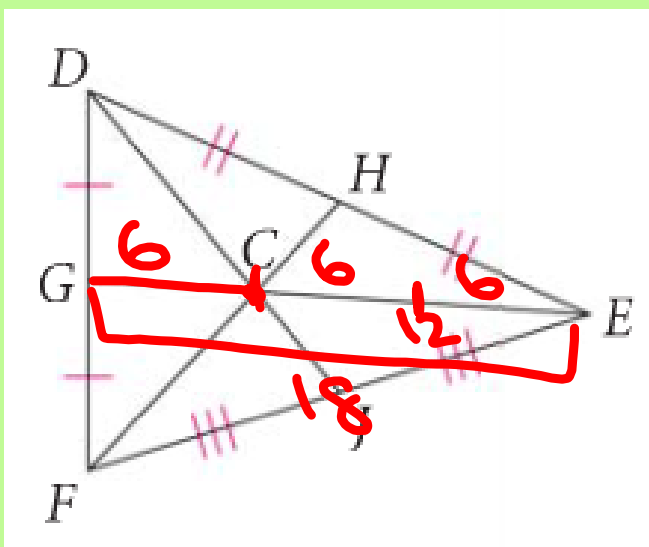


CENTROID:

the point of
concurrency of
a triangle's 3
medians

- it is located exactly $\frac{2}{3}$ of the
distance from the vertex to the
opposite midpoint

- it is the center of gravity of
the triangle



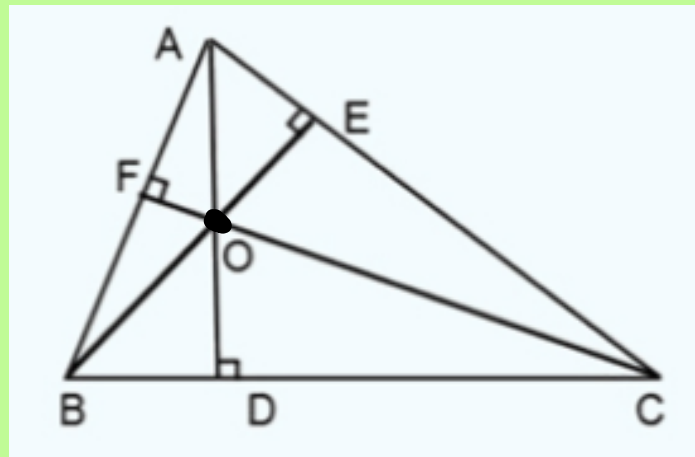
If $DJ = 15$, then $DC = \underline{10}$

If $GC = 6$, then $GE = \underline{18}$

ORTHOCENTER:

the point of
concurrency of
a triangle's 3
altitudes

the orthocenter doesn't have
any interesting properties



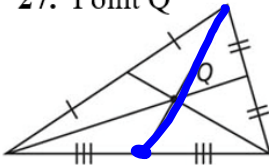
Assignment:

Concept 11 Worksheet - due by Friday 11/22

POINTS OF CONCURRENCY

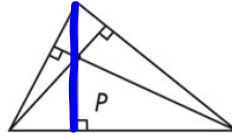
Is the given point a circumcenter, incenter, orthocenter, or centroid?

27. Point Q



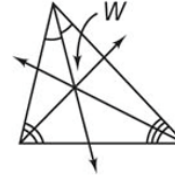
Centroid

28. Point P

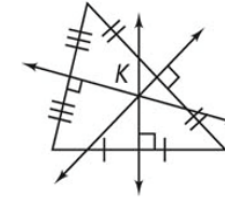


Orthocenter

29. Point W

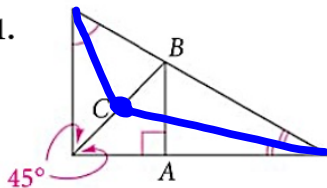


30. Point K



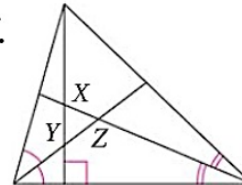
Which point is the incenter of each triangle?

31.

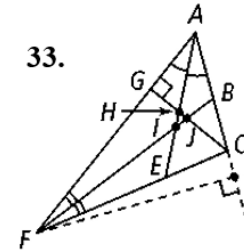


Point C

32.

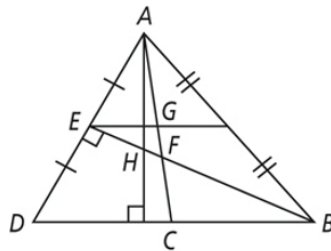


33.

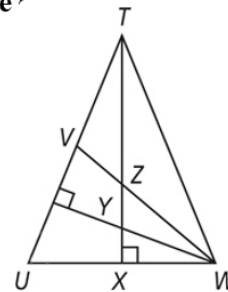


Which point is the orthocenter of each triangle?

34.



35.



36.

