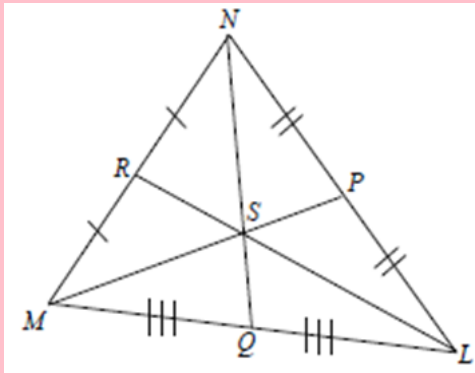


## Centroid 1

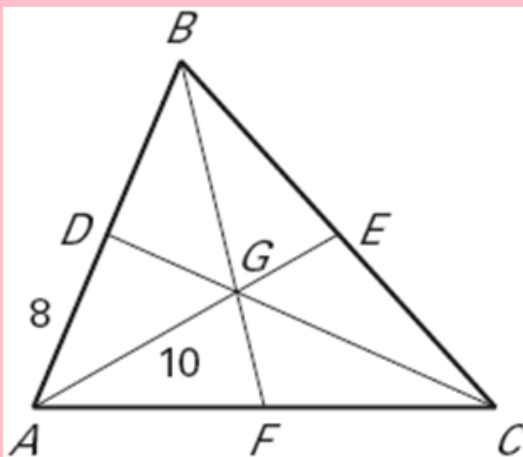
1. The centroid of a triangle is the point of concurrency of what lines of a triangle?
2. The centroid is also known as this point.
3. The centroid is \_\_\_\_\_ in the triangle.  
a. always    b. sometimes    c. never

## Centroid 2

1. If  $S$  is the centroid and  $RL = 21$ , what is the length of  $RS$  and  $SL$ ?



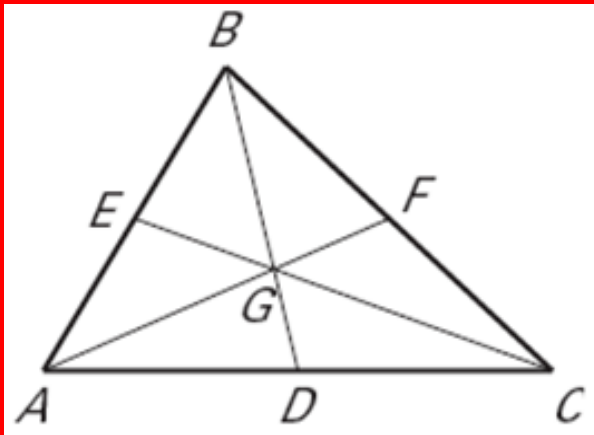
2. If  $G$  is the centroid, what is the length of  $DB$ ?



3. If  $G$  is the centroid, what is the length of  $EG$ ?
4. If  $G$  is the centroid, and  $DG=6$  what is the length of  $DC$ ?

## Centroid 3

1. If  $G$  is the centroid and  $FG=x+8$  and  $GA=6x-4$ , what is the value of  $x$ ?



2. If  $G$  is the centroid and  $CG=3y+7$  and  $CE=6y$ , what is the value of  $y$ ?

## Orthocenter 1

1. The orthocenter of a triangle is the point of concurrency of what lines of a triangle?

## Orthocenter 2

1. The orthocenter is \_\_\_\_\_ in the triangle.  
a. always      b. sometimes      c. never

## Orthocenter 3

1. Explain the difference between an altitude and a perpendicular bisector of a triangle. You may draw a picture to help explain the difference.

2. Where would the orthocenter be located if the triangle is acute? \_\_\_\_\_

3. Where would the orthocenter be located if the triangle is obtuse? \_\_\_\_\_

4. Where would the orthocenter be located if the triangle is right? \_\_\_\_\_

## Circumcenter 1

1. The circumcenter of a triangle is the point of concurrency of what lines of a triangle?

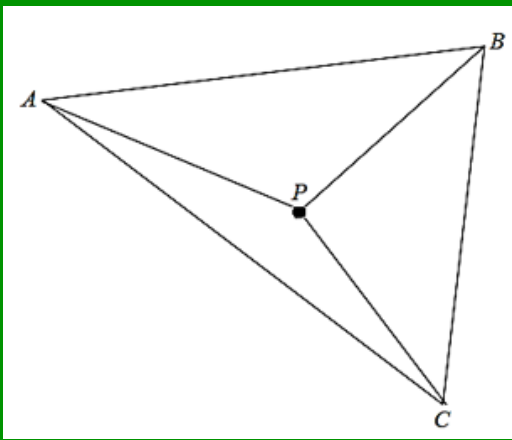
## Circumcenter 2

1. The circumcenter is \_\_\_\_\_ in the triangle.  
a. always      b. sometimes      c. never



## Circumcenter 3

If  $P$  is the circumcenter of the triangle below, which of the following choices must be correct?  
(Circle all that apply)



1.

A]  $\overline{AP} \cong \overline{PB}$

B]  $\overline{AP} \cong \overline{PC}$

C]  $\overline{AB} \cong \overline{BC}$

D]  $\overline{PB} \cong \overline{PC}$

2.

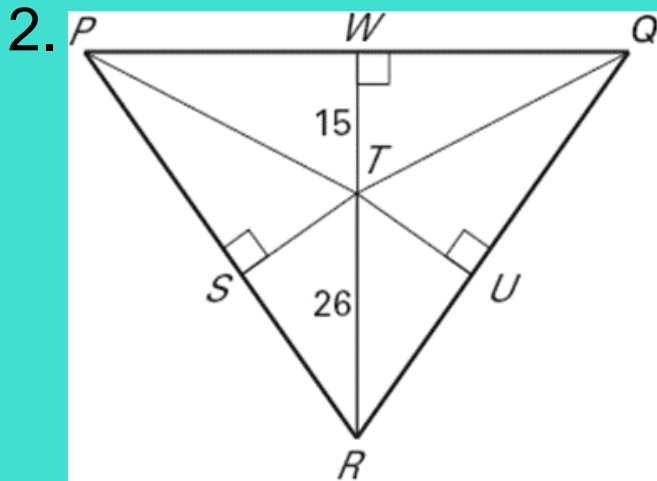
E]  $\triangle APC$  is isosceles.F] If  $m\overline{AP} = 7$ , then  $m\overline{PB} = 7$ G]  $\angle ABP \cong \angle PBC$

## Incenter 1

1. The incenter of a triangle is the point of concurrency of what lines of a triangle?

## Incenter 2

1. The incenter is \_\_\_\_\_ in the triangle.  
 a. always      b. sometimes      c. never

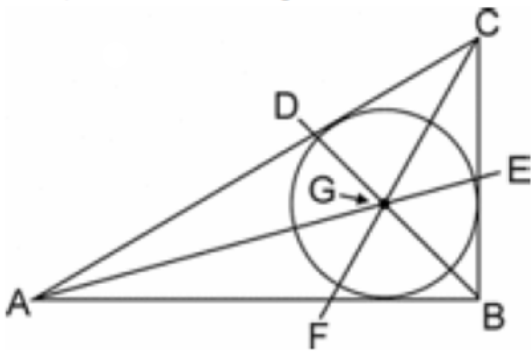


If point  $T$  is the incenter, if  $m\angle PRT = 24^\circ$ , then  $m\angle QRT =$

3. If point  $T$  is the incenter,  $ST =$  \_\_\_\_\_

## Incenter 3

Consider the diagram below:



1. It must be that  $\overline{GB} \cong \overline{GC}$  (TRUE / FALSE)
2. It must be that  $m\angle DCG = m\angle ECG$  (TRUE / FALSE)
3. It must be that  $m\angle ABD = m\angle CBD$  (TRUE / FALSE)
4. If  $m\angle DAF = 25^\circ$ , and  $m\angle DCG = 29^\circ$ , what is  $m\angle ABD$ ?