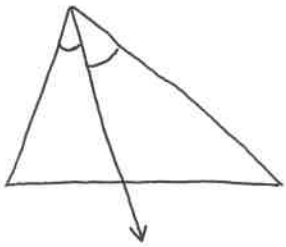
Geometry CC
Angle Bisectors

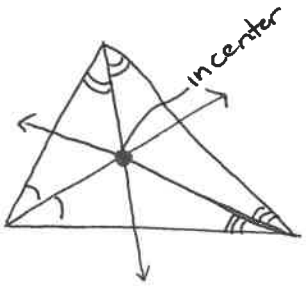
**Angle Bisector of a Triangle:**



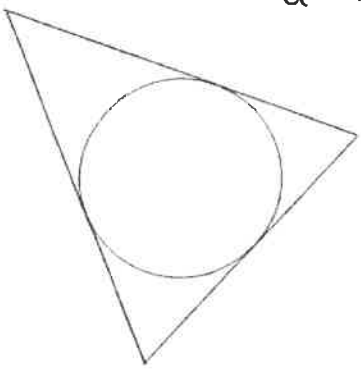
a ray or segment that splits an angle in 2 congruent pieces

**Incenter:**

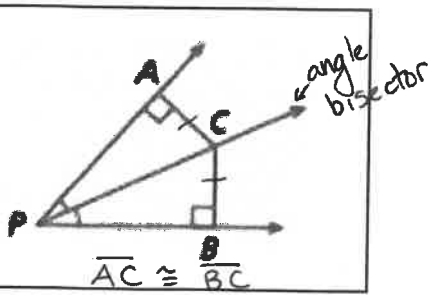
the point of concurrency of the angle bisectors

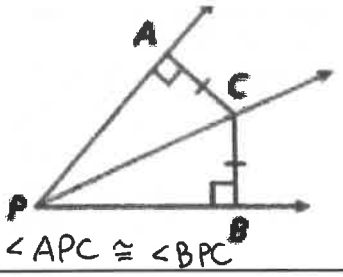



**Inscribe:** the circle that is inside a triangle touching each side exactly once



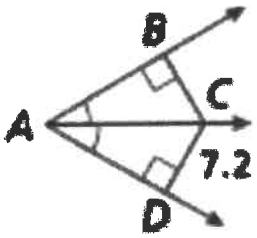
* incenter is the center of the inscribed circle

| | | |
|---|---|---|
| Angle Bisector Theorem | If a point is on the bisector of an angle, then it is equidistant from the sides of the angle. |   |

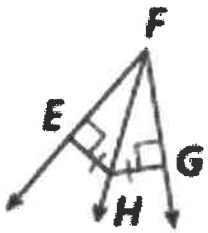
| | | |
|---|---|---|
| Converse of the Angle Bisector Theorem | If a point in the interior of an angle is equidistant from the sides of the angle, then it is on the bisector of the angle. |   $\angle APC \cong \angle BPC$ |

2. Find each measure:

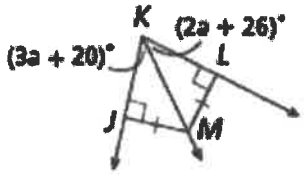
a. $BC = 7.2$




b. If $m\angle EFG = 50°$ then $m\angle EFH = 25°$




c. $m\angle MKL =$




$2a + 26 = 3a + 20$

$-2a \quad -2a$

$26 = a + 20$

$-20 \quad -20$

$6 = a$

$m\angle MKL = 2a + 26$

$= 2(6) + 26$

$= 12 + 26$

$= 38°$