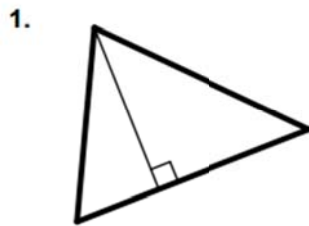
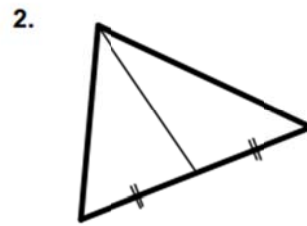


6.2 Incenter and Circumcenter Practice Problems

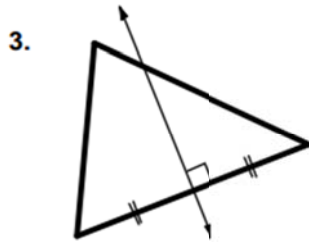
Circle the letter with the name of the segment/line/ray shown.



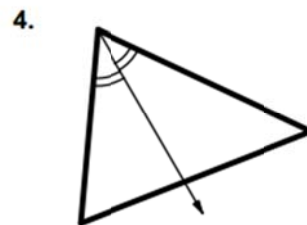
- (a) perpendicular bisector
- (b) angle bisector
- (c) median
- (d) altitude



- (a) perpendicular bisector
- (b) angle bisector
- (c) median
- (d) altitude



- (a) perpendicular bisector
- (b) angle bisector
- (c) median
- (d) altitude



- (a) perpendicular bisector
- (b) angle bisector
- (c) median
- (d) altitude

5. Each angle bisector meets at the point of concurrency called the _____.

6. Each perpendicular bisector meets at the point of concurrency called the _____.

7. It is equidistant from the three vertices of the triangle.

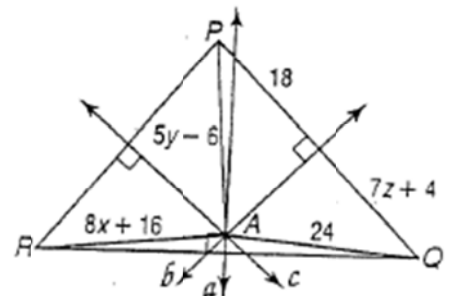
- (a) circumcenter
- (b) incenter
- (c) centroid
- (d) orthocenter

It is equidistant from the three sides of the triangle.

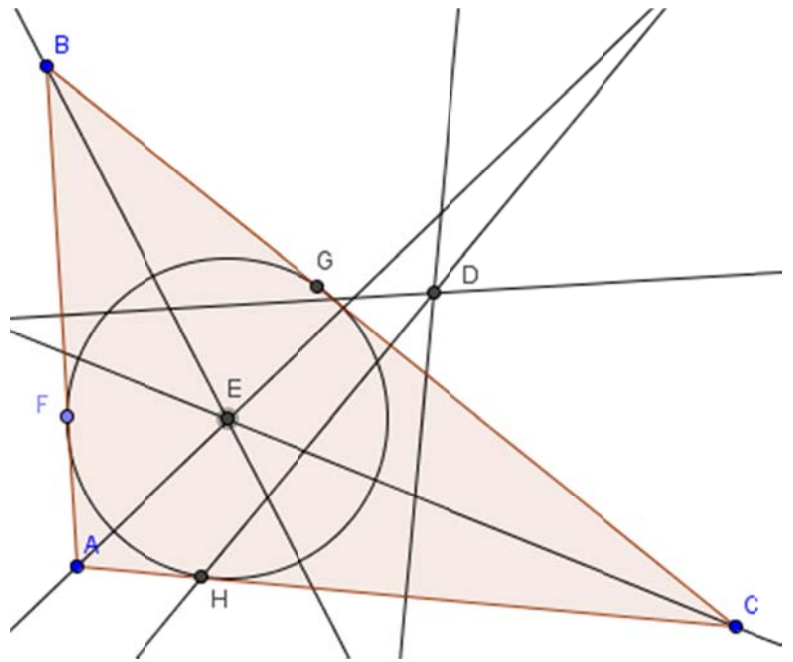
- (a) circumcenter
- (b) incenter
- (c) centroid
- (d) orthocenter

ALGEBRA Lines a , b , and c are perpendicular bisectors of $\triangle PQR$ and meet at A .

- 8. Find x .
- 9. Find y .
- 10. Find z .



Use the picture on the right for 11-13.
 Rays AE, BE, and CE are angle bisectors.
 D is the intersection of the perpendicular bisectors.
 11) $FE = 6x - 7$, $EH = 35$, find EG.



12) $AD = 3x + 4y$, $CD = 9x + y$, $BD = 11$, find x and y .

13) Angle $FAE = 10x + 5y$, Angle $HAE = 10y + 5$, $BD = x + y$, $CD = 3x - 1$, Find DC and angle FAH .

14) Find the coordinates of the circumcenter of the triangle with the given vertices without using technology. Find it by writing equations of lines and finding where they intersect.

a) $A(2, 6)$ $B(8, 6)$ $C(8, 10)$

b) $H(-10, 7)$ $J(-6, 3)$ $K(-2, 3)$

c) $L(3, -6)$ $M(5, -3)$ $N(8, -6)$