6.3 Practice A
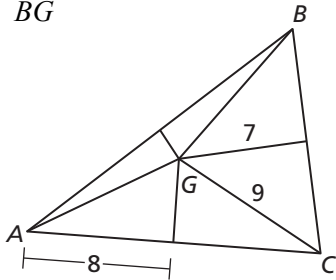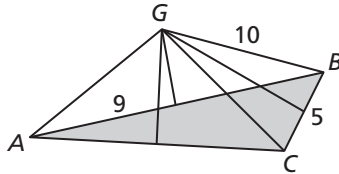
In Exercises 1–3, the perpendicular bisectors of △ABC intersect at point G, or the angle bisectors of △XYZ intersect at point P. Find the indicated measure. Tell which theorem you used.
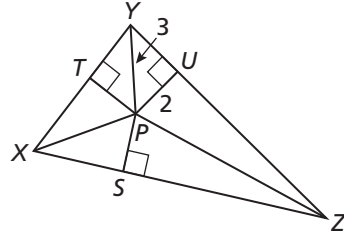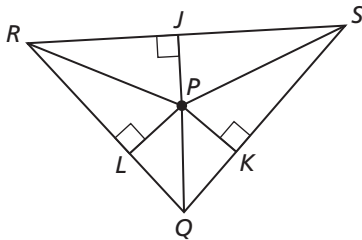
1. *BG*

2. *CG*

3. *PS*

In Exercises 4 and 5, find the coordinates of the circumcenter of the triangle with the given vertices.
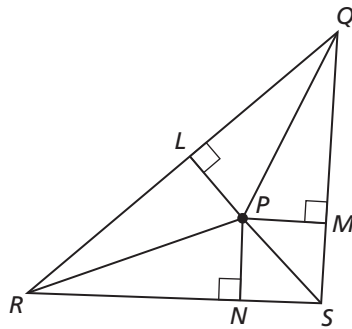
4. $J(6, 0)$, $K(0, 0)$, $L(0, 4)$

5. $U(0, 0)$, $V(-4, 0)$, $W(-6, 6)$

In Exercises 6 and 7, P is the incenter of △QRS. Use the given information to find the indicated measure.

6. $PJ = 4x - 8$, $PL = x + 7$
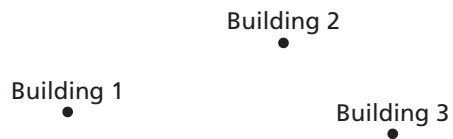Find PK.

7. $PN = 6x + 2$, $PM = 8x - 14$
Find PL.

8. Draw an obtuse isosceles triangle. Find the circumcenter C. Then construct the circumscribed circle.

9. A cellular phone company is building a tower at an equal distance from three large apartment buildings. Explain how you can use the figure at the right to determine the location of the cell tower.

Building 2

Building 1

Building 3

10. Your friend says that it is impossible for the circumcenter of a triangle to lie outside the triangle. Is your friend correct? Explain your reasoning.