Name_____ Date_____

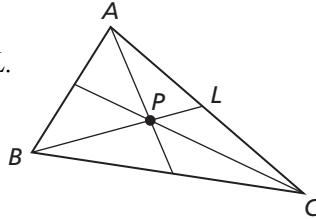## 6.4 Practice A

In Exercises 1–4, point *P* is the centroid of △*ABC*. Use the given information to find the indicated measures.

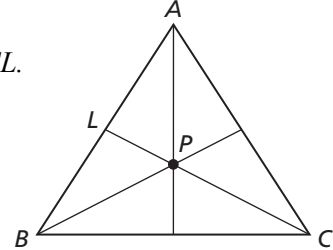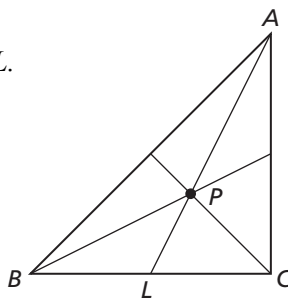1. $BL = 12$
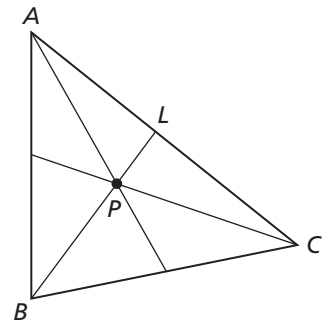   Find BP and PL.

2. $CP = 16$
   Find PL and CL.

3. $AL = 27$
   Find AP and PL.

4. $BP = 102$
   Find PL and BL.

In Exercises 5 and 6, find the coordinates of the centroid of the triangle with the given vertices.

5. $Q(-2, 6), R(4, 0), S(10, 6)$

6. $U(3, 3), V(5, -1), W(-2, 1)$

In Exercises 7 and 8, tell whether the orthocenter is *inside*, *on*, or *outside* the triangle. Then find the coordinates of the orthocenter.

7. $J(1, 3), K(-3, 1), L(0, 0)$

8. $D(-3, -2), E(-2, -2), F(1, 2)$

9. To transport a triangular table, you remove the legs. You secure the glass top to the frame by looping a string from a hole in each vertex around the opposite side, then pulling it tight and tying it. At what point of concurrency do the three strings intersect? Explain your reasoning.
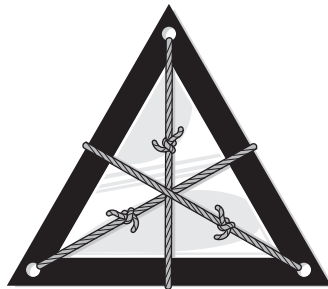
10. Your friend claims that it is impossible for the centroid and the orthocenter of a triangle to be the same point. Is your friend correct? Explain your reasoning.