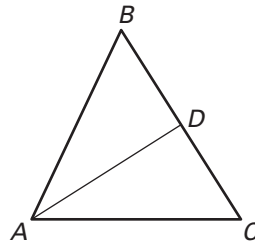


# Practice A

For use with pages 279–285

Use the diagram shown and the given information to decide in each case whether  $\overline{AD}$  is a *perpendicular bisector*, an *angle bisector*, a *median*, or an *altitude* of  $\triangle ABC$ .

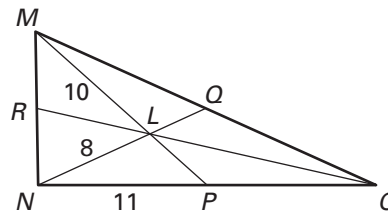
1.  $\overline{DB} \cong \overline{DC}$
2.  $\angle BAD \cong \angle CAD$
3.  $\overline{DB} \cong \overline{DC}$  and  $\overline{AD} \perp \overline{BC}$
4.  $\overline{AD} \perp \overline{BC}$
5.  $\triangle BAD \cong \triangle CAD$



Use the figure shown and the given information.

$L$  is the centroid of  $\triangle MNO$ ,  $NP = 11$ ,  $ML = 10$ , and  $NL = 8$ .

6. Find the length of  $\overline{PO}$ .
7. Find the length of  $\overline{MP}$ .
8. Find the length of  $\overline{LQ}$ .
9. Find the length of  $\overline{NQ}$ .
10. Find the perimeter of  $\triangle NLP$ .

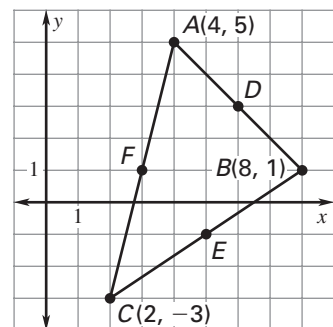


Decide whether the statement is *true* or *false*. Illustrate your answer with a sketch.

11. The median of a triangle could also be the perpendicular bisector.
12. The altitude of a triangle could also be the perpendicular bisector.
13. The medians of a triangle always intersect inside the triangle.
14. The altitudes of a triangle always intersect inside the triangle.

Use the graph shown.

15. Find the coordinates of  $D$ , the midpoint of  $\overline{AB}$ .
16. Find the length of the median  $\overline{CD}$ .
17. Find the coordinates of  $E$ , the midpoint of  $\overline{BC}$ .
18. Find the length of the median  $\overline{AE}$ .



Complete the constructions described.

19. Draw a large obtuse, scalene triangle  $\triangle ABC$ . Construct the altitude from the obtuse angle.
20. Draw a large right, scalene triangle  $\triangle ABC$ . Construct the orthocenter.