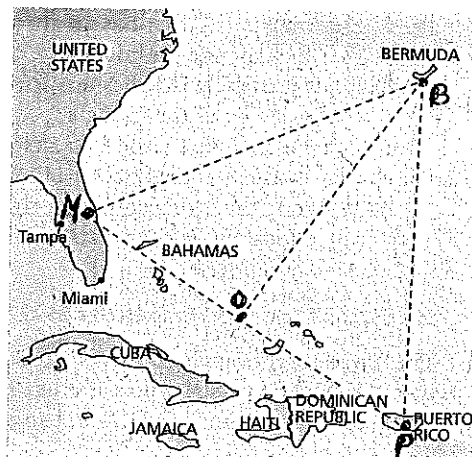




#1-6, Use the map of the Bermuda Triangle and the information provided to decide whether  $\overline{OB}$  is a perpendicular bisector, angle bisector, median or altitude of  $\triangle MBP$ .

1. Given:  $\overline{MO} \cong \overline{OP}$
2. Given:  $\overline{OB} \perp \overline{MP}$
3. Given:  $\angle MBO \cong \angle PBO$
4. Given:  $\overline{OB} \perp \overline{MP}$  and  $\overline{MO} \cong \overline{OP}$
5. Given:  $\triangle MOB \cong \triangle POB$
6. Given:  $\overline{BO}$  bisects  $\angle MBP$



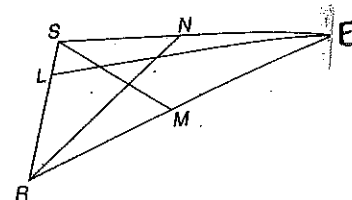
The Bermuda Triangle is a region in the Atlantic Ocean where many ships and airplanes have had accidents.

#7-10, Complete the statement with the word *always*, *sometimes* or *never*.

7. A median  has a midpoint as an endpoint.
8. An altitude  lies outside a triangle.
9. A perpendicular bisector  has a vertex as an endpoint.
10. The angle bisectors of a triangle  intersect at a single point.

#11-15, Refer to  $\triangle RES$  and write one conclusion you can make from each statement.

11.  $\overline{SM}$  is an altitude to  $\overline{RE}$ .
12.  $\overline{SN} \cong \overline{NE}$
13.  $M$  is equidistant from  $R$  and  $E$ , and  $\angle RMS$  is a right angle.
14.  $\angle ERN \cong \angle SRN$
15.  $\overline{EL} \perp \overline{SR}$



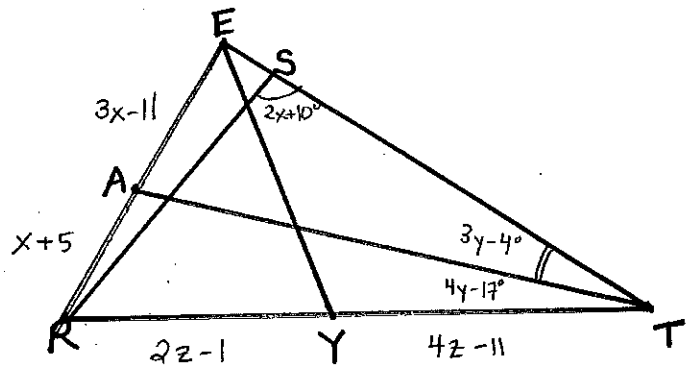
16.  $\triangle ABC$  has vertices  $A(-3, -9)$ ,  $B(5, 11)$  and  $C(9, -1)$ .  $\overline{AT}$  is a median of  $\triangle ABC$  (so  $T$  must be on  $\overline{BC}$ )
  - a. Find the coordinates of  $T$
  - b. Find the slope of  $\overline{AT}$
  - c. Is  $\overline{AT}$  an altitude of  $\triangle ABC$ ? Explain your answer.

#17-19, Use  $\triangle RTE$ .

17.  $\overline{RS}$  is an altitude of  $\triangle RTE$ . Solve for  $x$ .

18.  $\overline{TA}$  is an angle bisector of  $\triangle RTE$ . Find  $m\angle RTA$ .

19.  $\overline{EY}$  is a median of  $\triangle RTE$ . Solve for  $RT$ .



#20-21,  $\triangle DSB$  has vertices of  $D(4,1)$ ,  $S(0,3)$  and  $B(6,4)$ . Find the equation of the indicated segment. Show your work and hopefully you remember how handy the point-slope form of a line can be.

20. Altitude from side  $DS$ .

21. Median of side  $DB$ .

22. Construct (compass & straightedge) a circle that circumscribes  $\triangle DEC$ .

