

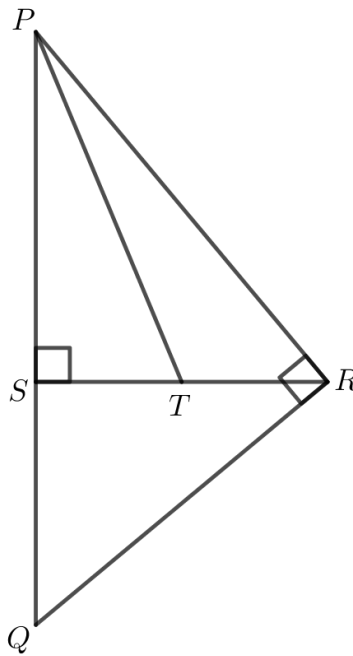


## Problem of the Week

### Problem D

#### Which Term is Which?

In  $\triangle PQR$ ,  $\angle PRQ = 90^\circ$ . An altitude is drawn in  $\triangle PQR$  from  $R$  to  $PQ$ , intersecting  $PQ$  at  $S$ . A median is drawn in  $\triangle PSR$  from  $P$  to  $SR$ , intersecting  $SR$  at  $T$ .



If the length of the median  $PT$  is 39 and the length of  $PS$  is 36, determine the length of  $QS$ .

NOTE: An *altitude* of a triangle is a line segment drawn from a vertex of the triangle perpendicular to the opposite side. A *median* is a line segment drawn from a vertex of the triangle to the midpoint of the opposite side.

