

MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 4 - JANUARY 2013
ROUND 5 GEOMETRY: SIMILARITY OF POLYGONS

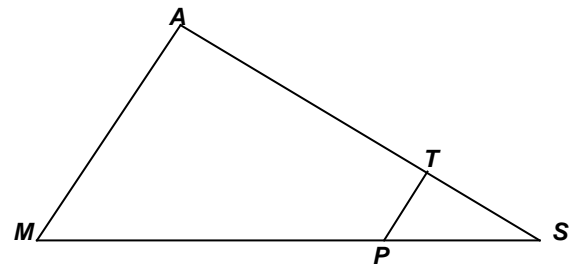
ANSWERS

A) _____ : _____

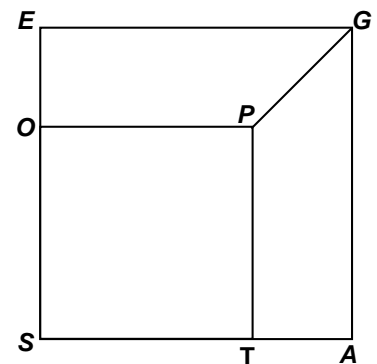
B) _____

C) _____

- A) Given: $\text{area}(\triangle STP) = 18$, $\text{area}(\text{trapezoid } TAMP) = 110$
 Compute $ST : TA$.



- B) $POST$ and $SAGE$ are squares.
 Their areas differ by 80.
 $PG = 4\sqrt{2}$.
 Compute the area of the larger square.



- C) $NEHI$ is a rectangle, $HE = 3$, $NE = a$, $GE > NG$
 $\triangle HGE \sim \triangle GIN$, $\text{area}(\triangle GHI) = 9.375$
 Compute GE .

