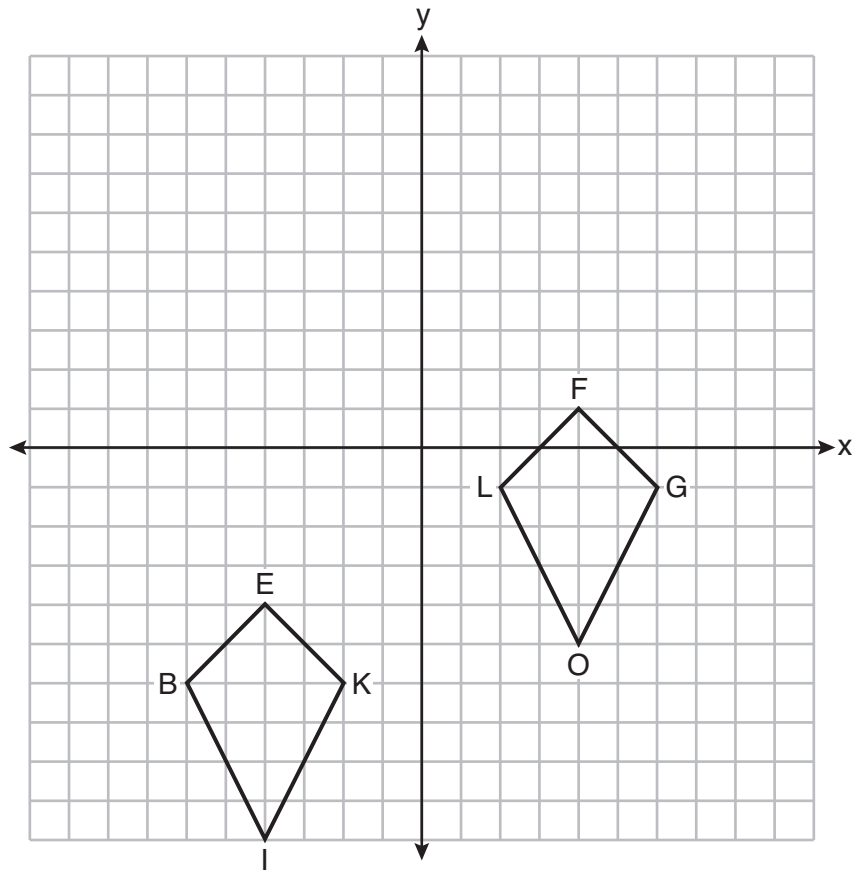
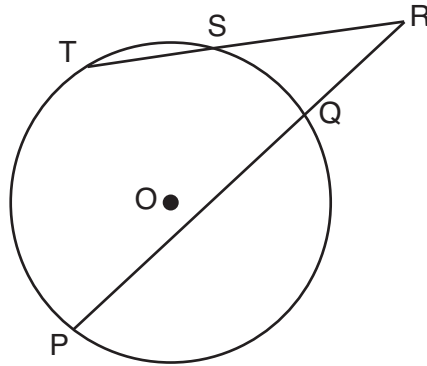


27 Quadrilaterals *BIKE* and *GOLF* are graphed on the set of axes below.



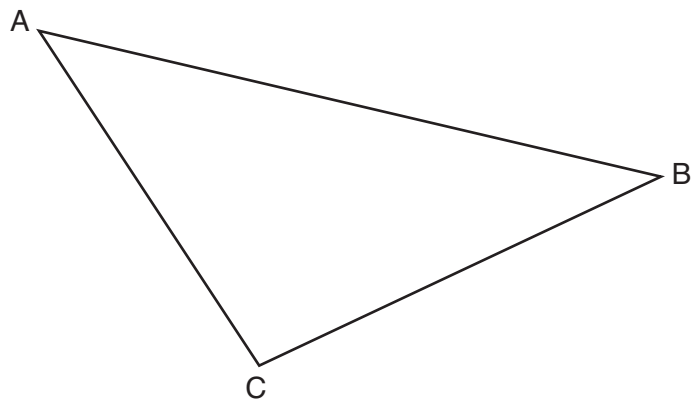
Describe a sequence of transformations that maps quadrilateral *BIKE* onto quadrilateral *GOLF*.

28 In the diagram below, secants \overline{RST} and \overline{RQP} , drawn from point R , intersect circle O at $S, T, Q,$ and P .

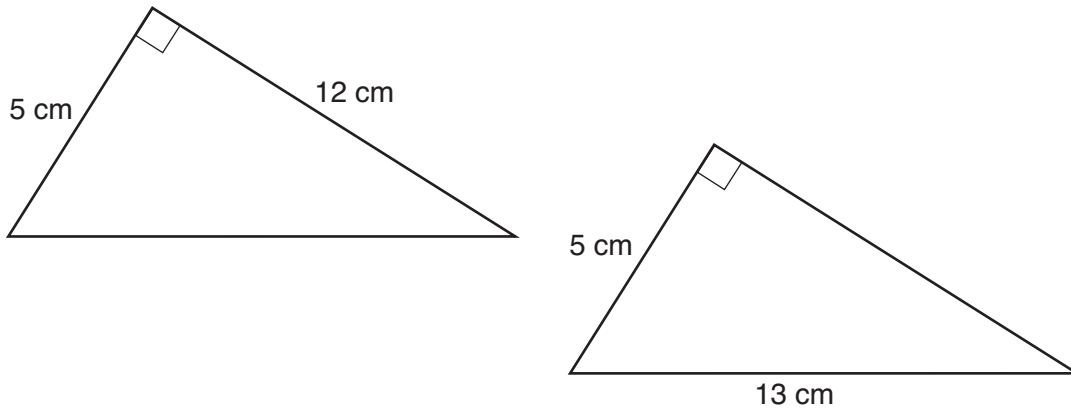


If $RS = 6$, $ST = 4$, and $RP = 15$, what is the length of \overline{RQ} ?

29 Using a compass and straightedge, construct the median to side \overline{AC} in $\triangle ABC$ below.
[Leave all construction marks.]



30 Skye says that the two triangles below are congruent. Margaret says that the two triangles are similar.



Are Skye and Margaret both correct? Explain why.

31 Randy's basketball is in the shape of a sphere with a maximum circumference of 29.5 inches. Determine and state the volume of the basketball, to the *nearest cubic inch*.

Part III

Answer all 3 questions in this part. Each correct answer will receive 4 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. Utilize the information provided for each question to determine your answer. Note that diagrams are not necessarily drawn to scale. For all questions in this part, a correct numerical answer with no work shown will receive only 1 credit. All answers should be written in pen, except for graphs and drawings, which should be done in pencil. [12]

- 32 Triangle ABC has vertices with coordinates $A(-1, -1)$, $B(4, 0)$, and $C(0, 4)$. Prove that $\triangle ABC$ is an isosceles triangle but *not* an equilateral triangle. [The use of the set of axes below is optional.]

