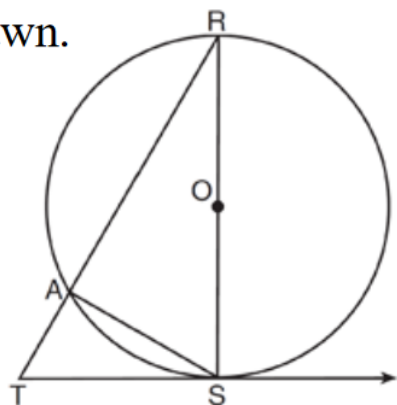


In the diagram of circle O below, diameter \overline{RS} , chord \overline{AS} , tangent \overrightarrow{TS} , and secant \overline{TAR} are drawn.



Complete the following proof to show $(RS)^2 = RA \cdot RT$

Statements

1. circle O , diameter \overline{RS} , chord \overline{AS} , tangent \overrightarrow{TS} , and secant \overline{TAR}
2. $\overline{RS} \perp \overrightarrow{TS}$

3. $\angle RST$ is a right angle

4. $\angle RAS$ is a right angle

5. $\angle RST \cong \angle RAS$

6. $\angle R \cong \angle R$

7. $\triangle RST \sim \triangle RAS$

8. $\frac{RS}{RA} = \frac{RT}{RS}$

9. $(RS)^2 = RA \cdot RT$

Reasons

1. Given

2. _____

3. \perp lines form right angles

4. _____

5. _____

6. Reflexive property

7. _____

8. _____

9. _____