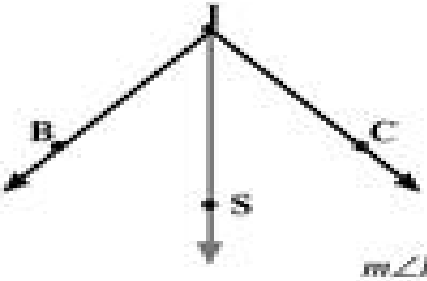
Angle Bisector Theorem

ANGLE BISECTOR THEOREM:
The angle bisector divides the angle into two new angles, each half the measure of the original angle.



Given:
$\overrightarrow{IS}$ bisects $\angle BIC$

Prove:
$m\angle BIS = m\angle SIC = \frac{1}{2} m\angle BIC$

STATEMENTS	REASONS
$m\angle BIS = m\angle SIC$	**Definition of Angle Bisector**
$m\angle BIS + m\angle SIC = m\angle BIC$	**Angle Addition Postulate**
$m\angle BIS + m\angle BIS = m\angle BIC$ $= 2(m\angle BIS) = m\angle BIC$	**Substitution Property of Equality**
$m\angle SIC + m\angle SIC = m\angle BIC$ $= 2(m\angle SIC) = m\angle BIC$	**Substitution Property of Equality**
$m\angle BIS = m\angle SIC = \frac{1}{2} m\angle BIC$	**Division Property of Equality**