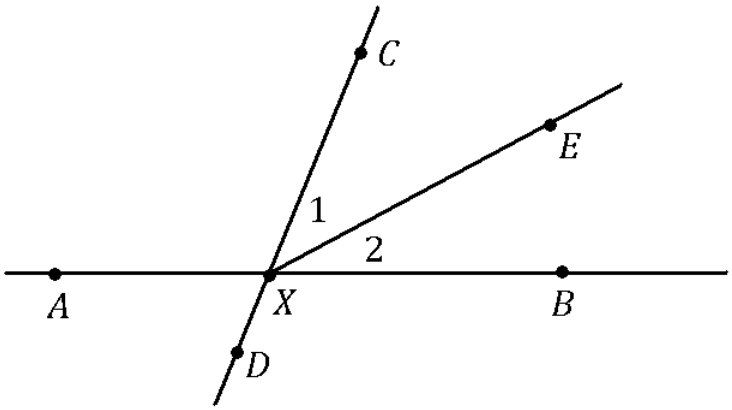
DIRECTIONS: Name the definition, postulate, theorem, or property that most accurately justifies each statement. Use the following diagram and the given information.

Given: X is the midpoint of $\overline{AB}$; $\overrightarrow{XE}$ bisects $\measuredangle CXB$



1. $CX + XD = CD$
Segment Addition Postulate

2. $AX = XB$
Def of midpoint

3. $\measuredangle AXC \cong \measuredangle DXB$
Vert ∡s are ≅

4. $m\measuredangle 1 = m\measuredangle 2$
Def of ∡ bisector

5. $m\measuredangle 1 = \frac{1}{2}(m\measuredangle CXB)$
Def of ∡ bisector

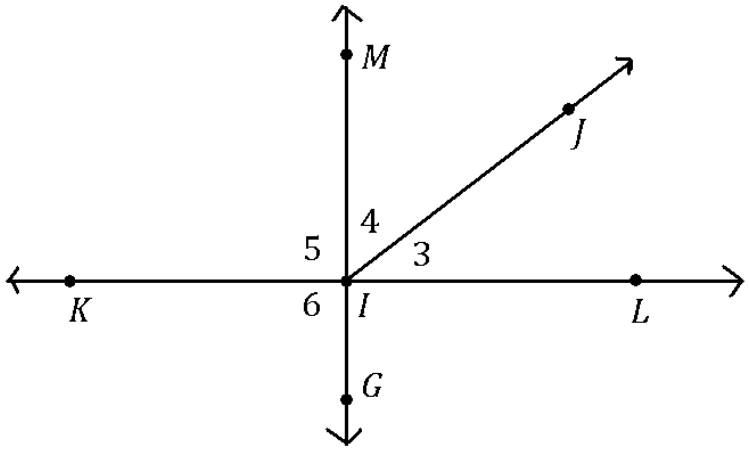
6. $XE = XE$
Reflexive Property

7. $AX = \frac{1}{2}AB$
Def of midpoint

8. $m\measuredangle AXE + m\measuredangle EXB = 180$
Linear pair ∡s = 180 OR ∡ Add Post

DIRECTIONS: Name the definition, postulate, theorem, or property that most accurately justifies each statement. Use the following diagram and the given information.

Given: $m\measuredangle 2 = m\measuredangle 3$; $\overline{MG} \perp \overline{KL}$; $KI = IL$; $IL = MI$



9. $\measuredangle 5 \cong \measuredangle 6$
If lines ⊥, then adj ∡s ≅

10. $KI = MI$
Transitive Prop OR Substitution

11. I is the midpoint of $\overline{KL}$
Def of midpoint

12. $\measuredangle 5 \cong \measuredangle LIG$
Vert ∡s are ≅

13. $2(KI) = 2(IL)$
Multiplication Property

14. $\measuredangle 5$ is a right angle
Def of ⊥ lines

15. $\overrightarrow{IJ}$ bisects $\measuredangle MIL$
Def of ∡ bisector

16. $m\measuredangle 3 + m\measuredangle 4 = m\measuredangle MIL$
∡ Add Postulate