

10. \overline{XY}

14. a. Given
 b. Reflexive Property
 c. Given
 d. AAS
 e. CPCTC

18. Given: $\overline{AD} \cong \overline{ED}$,
 D is the midpoint of \overline{BF} Prove: $\triangle ADC \cong \triangle EDG$

Statements	Reasons
1. D is the midpoint of \overline{BF}	1. Given
2. $\overline{DF} \cong \overline{DB}$	2. Definition of Midpoint
3. $\overline{AD} \cong \overline{ED}$	3. Given
4. $\angle FDE \cong \angle ADB$	4. Vertical Angles are congruent
5. $\triangle EDF \cong \triangle ADB$	5. SAS
6. $\angle E \cong \angle A$	6. CPCTC
7. $\angle ADC \cong \angle EDG$	7. Vertical Angles are congruent
8. $\triangle ADC \cong \triangle EDG$	8. ASA

22. Given: $\overline{QT} \perp \overline{PR}$, \overline{QT} bisects \overline{PR}
 \overline{QT} bisects $\angle VQS$

Prove: $\overline{VQ} \cong \overline{SQ}$

Statements	Reasons
1. $\overline{QT} \perp \overline{PR}$, \overline{QT} bisects \overline{PR}	1. Given
2. $\angle PQT$ and $\angle RQT$ are right \angle s	2. Definition of Perpendicular segments
3. $\angle PQT \cong \angle RQT$	3. All Right angles are congruent
4. $\overline{PQ} \cong \overline{RQ}$	4. Definition of Segment Bisector
5. $\overline{QT} \cong \overline{QT}$	5. Reflexive Property
6. $\triangle PQT \cong \triangle RQT$	6. SAS
7. $\angle QTV \cong \angle QTS$	7. CPCTC
8. \overline{QT} bisects $\angle VQS$	8. Given
9. $\angle VQT \cong \angle SQT$	9. Definition of Angle Bisector
10. $\triangle VQT \cong \triangle SQT$	10. ASA
11. $\overline{VQ} \cong \overline{SQ}$	11. CPCTC

26. Given: $\overline{AB} \perp \overline{BC}$, $\overline{DC} \perp \overline{BC}$
 $\overline{AC} \cong \overline{DB}$

Prove: $\overline{AE} \cong \overline{DE}$

Statements	Reasons
1. $\overline{AB} \perp \overline{BC}$, $\overline{DC} \perp \overline{BC}$ $\overline{AC} \cong \overline{DB}$	1. Given
2. $\angle ABC$ and $\angle DCB$ are right \angle s	2. Definition of Perpendicular segments
3. $\triangle ABC$ and $\triangle DCB$ are right Δ s	3. Definition of Right triangles
4. $\overline{BC} \cong \overline{BC}$	4. Reflexive Property
5. $\triangle ABC \cong \triangle DCB$	5. HL
6. $\overline{AB} \cong \overline{DC}$, $\angle A \cong \angle D$	6. CPCTC

7. $\angle AEB \cong \angle DEC$

7. Vertical Angles are Congruent

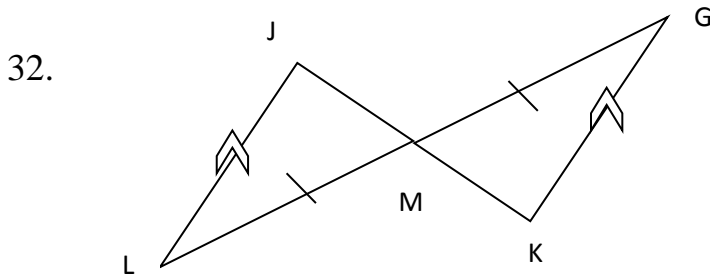
8. $\triangle AEB \cong \triangle DEC$

8. AAS

11. $\overline{AE} \cong \overline{DE}$

11. CPCTC

30. Since Base Angles of an Isosceles Triangle are congruent, $m\angle A = m\angle C = 37$. Since the three angles of any triangle must add to 180° , $m\angle B = 180 - 37 - 37 = 106^\circ$ which is answer H.



Given: $\overline{LJ} \parallel \overline{GK}$,
 M is the midpoint of \overline{LG}

Prove: $\triangle LJM \cong \triangle GKM$

Statements	Reasons
1. $\overline{LJ} \parallel \overline{GK}$, M is the midpoint of \overline{LG}	1. Given
2. $\angle L \cong \angle G$ and $\angle J \cong \angle K$	2. If \parallel , Alternate Interior \angle s are congruent
3. $\overline{LM} \cong \overline{GM}$	3. Definition of Midpoint
4. $\triangle LJM \cong \triangle GKM$	4. AAS

OR

Given: $\overline{LJ} \parallel \overline{GK}$,
 M is the midpoint of \overline{LG}

Prove: $\triangle LJM \cong \triangle GKM$

Statements	Reasons
1. $\overline{LJ} \parallel \overline{GK}$, M is the midpoint of \overline{LG}	1. Given

2. $\angle L \cong \angle G$

3. $\overline{LM} \cong \overline{MG}$

4. $\angle LMJ \cong \angle GMK$

5. $\triangle LJM \cong \triangle GKM$

2. If //, Alternate Interior \angle s are congruent

3. Definition of Midpoint

4. Vertical Angles are congruent

5. ASA