

Answer Key

Lesson 4.5

Practice Level C

1. $\overline{FE} \cong \overline{TR}$ or $\overline{DE} \cong \overline{QR}$ 2. $\angle F \cong \angle T$
3. $\overline{DF} \cong \overline{QT}$ 4. No 5. Yes; $\angle KNL \cong \angle MLN$ by Alternate Interior Angles Theorem, $\overline{LN} \cong \overline{LN}$ by Reflexive Property of Congruence, $\triangle KLN \cong \triangle MNL$ by ASA Congruence Postulate
6. Yes; $\overline{TX} \cong \overline{VY}$ by summation of congruent parts, $\overline{YX} \cong \overline{YX}$ by Reflexive Property of Congruence, $\overline{YZ} \cong \overline{YW}$ by summation of congruent parts, $\triangle TXZ \cong \triangle VYW$ by SAS Congruence Theorem
7. No, $\angle M$ and $\angle Y$ are not corresponding angles.
8. No, \overline{JR} and \overline{YZ} are not corresponding sides.
9. Yes, AAS Congruence Theorem 10. No, the congruent sides are not corresponding sides.
11. Two pairs of corresponding sides ($\overline{AF} \cong \overline{BF}$, $\overline{FD} \cong \overline{FC}$) and the corresponding included angle ($\angle AFD \cong \angle BFC$, by Vertical Angles Theorem) are congruent.
12. Two pairs of corresponding angles ($\angle ACE \cong \angle DBA$, $\angle AEC \cong \angle DAB$) and the a corresponding non-included side ($\overline{AC} \cong \overline{DB}$, by summation of congruent parts) are congruent.
13. $\angle ACD \cong \angle ABD$ is given. $\angle BDC \cong \angle ABD$ by Alternate Interior Angles Theorem. $\angle ACD \cong \angle BDC$ by Transitive Property of Congruence. $\overline{DC} \cong \overline{DC}$ by Reflexive Property of Congruence. $\angle ADF \cong \angle BCF$ because $\triangle ADF \cong \triangle BCF$ by SAS Congruence Theorem. Then $\angle ADC \cong \angle BCD$ by summation of congruent parts.

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Statements	Reasons
1. $\overline{AB} \parallel \overline{DC}$	1. Given
2. $\angle ADB \cong \angle CBD$	2. Given
3. $\angle ABD \cong \angle CDB$	3. Alternate Interior Angles Theorem
4. $\overline{DB} \cong \overline{DB}$	4. Reflexive Property of Congruence
5. $\triangle ABD \cong \triangle CDB$	5. ASA Congruence Postulate

15. 1. Given; 2. Given; 3. Reflexive Property of Congruence; 4. AAS Congruence Theorem; 5. Corresponding parts of congruent triangles are congruent; 6. Alternate Interior Angles Theorem
16. 1. Given; 2. Given; 3. Vertical Angles Theorem; 4. ASA Congruence Postulate; 5. Corresponding parts of congruent triangles are congruent.

Answer Key

17.

Statements	Reasons
1. $\angle MJL \cong \angle KJL$	1. Given
2. $\angle MLJ \cong \angle KLJ$	2. Given
3. $\overline{JL} \cong \overline{JL}$	3. Reflexive Property of Congruence
4. $\triangle MJL \cong \triangle KJL$	4. ASA Congruence Postulate
5. $\overline{LN} \cong \overline{LN}$	5. Reflexive Property of Congruence
6. $\overline{ML} \cong \overline{KL}$	6. Corresponding parts of congruent triangles are congruent.
7. $m\angle MLJ +$ $m\angle MLN = 180^\circ$	7. Linear Pair Postulate
8. $\angle MLJ$ and $\angle MLN$ are supplementary.	8. Definition of supplementary angles
9. $m\angle KLJ +$ $m\angle KLN = 180^\circ$	9. Linear Pair Postulate
10. $\angle KLJ$ and $\angle KLN$ are supplementary.	10. Definition of supplementary angles
11. $\angle MLN \cong \angle KLN$	11. Because $\angle MLJ \cong \angle KLJ$, if two angles are supplementary to the same angle, then they are congruent.
12. $\triangle MLN \cong \triangle KLN$	12. SAS Congruence Theorem