

Geometry Unit 6.4a Worksheet Answers

1. SSS
2. HL
3. Not enough information to determine congruency
4. SSS

5.

Statements	Reason
$\overline{AB} \cong \overline{CD}$	given
$\overline{AD} \cong \overline{CB}$	given
$\overline{BD} \cong \overline{BD}$	reflexive property
$\triangle ABD \cong \triangle CDB$	SSS

6.

Statements	Reason
$\overline{AB} \cong \overline{BD}$	given
$\angle BCA$ are $\angle ACB$ right \angle	given (diagram)
$\triangle ABC$ are $\triangle BDC$ right \triangle	definition of right \triangle
$\overline{BC} \cong \overline{BC}$	reflexive property
$\triangle ABC \cong \triangle BDC$	HL

7.

Statements	Reason
N is midpt of \overline{AO}	given
$\overline{LM} \cong \overline{OP}$	given
$\overline{LN} \cong \overline{PN}$	given
$\overline{MN} \cong \overline{NO}$	definition of midpt.
$\triangle LMN \cong \triangle PON$	SSS

8.

Statements	Reason
$\overline{AB} \cong \overline{CB}$	given
\overline{BD} is a median of \overline{AC}	given
D is midpt of \overline{AC}	definition of median
$\overline{AD} \cong \overline{DC}$	definition of midpoint
$\overline{BD} \cong \overline{BD}$	reflexive property
$\triangle ABD \cong \triangle CBD$	SSS

9.

Statements	Reason
$\overline{AF} \cong \overline{DC}$	given
$\overline{AB} \cong \overline{DE}$	given
$\overline{AB} \perp \overline{BC}, \overline{DE} \perp \overline{EF}$	given
$\angle ABC$ are $\angle DEF$ right \angle	definition of \perp
$\triangle ABC$ are $\triangle DEF$ right \triangle	definition of right \triangle
$\overline{DF} = \overline{DC} + \overline{CF}$ $\overline{AC} = \overline{AF} + \overline{CF}$	segment $+$ postulate
$\overline{AC} = \overline{DC} + \overline{CF}$	substitution definition from ① of \cong
7. $\overline{DF} = \overline{AC}$ $\overline{DF} \cong \overline{AC}$	7. transitive definition property of \cong
8. $\triangle ABC \cong \triangle DEF$	8. SSS