Lesson 4.3

Challenge Practice

1.

Statements	Reasons
1. $\overline{PA} \cong \overline{PC}$ $\overline{AB} \cong \overline{BC}$	**1.** Given
2. $\overline{PB} \cong \overline{PB}$	**2.** Reflexive property of congruence
3. $\triangle PAB \cong \triangle PBC$	**3.** SSS Congruence Postulate

2.

Statements	Reasons
1. $\overline{AD} \cong \overline{CF}$ $\overline{DC} \cong \overline{FA}$	**1.** Given
2. $\overline{AC} \cong \overline{AC}$	**2.** Reflexive property of congruence
3. $\triangle ADC \cong \triangle CFA$	**3.** SSS Congruence Postulate

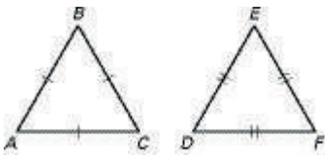
3.

Statements	Reasons
1. $\overline{AE} \cong \overline{FC}$ $\overline{BE} \cong \overline{BF}$ $\overline{AB} \cong \overline{BC}$	**1.** Given
2. $AE + EF = AF$ $EF + FC = EC$	**2.** Segment Addition Postulate
3. $FC + EF = AF$	**3.** Substitution property of equality
4. $AF = EC$	**4.** Substitution property of equality
5. $\overline{AF} \cong \overline{EC}$	**5.** Definition of congruent segments
6. $\triangle AFB \cong \triangle CEB$	**6.** SSS Congruence Postulate

4.

Statements	Reasons
1. $\triangle ZWV \cong \triangle YXV$	**1.** Given
2. $\overline{ZW} \cong \overline{YX}$ $\overline{ZV} \cong \overline{YV}$ $\overline{WV} \cong \overline{XV}$	**2.** Definition of congruent triangles
3. $WV + VY = WY$ $XV + VZ = XZ$	**3.** Segment Addition Postulate
4. $XV + VZ = WY$	**4.** Substitution property of equality
5. $WY = XZ$	**5.** Substitution property of equality
6. $\overline{WY} \cong \overline{XZ}$	**6.** Definition of congruent segments
7. $\triangle ZWY \cong \triangle YXZ$	**7.** SSS Congruence Postulate

5. The diagram shows two equilateral triangles, $\triangle ABC$ and $\triangle DEF$. If one side of $\triangle ABC$ is congruent to one side of $\triangle DEF$, such as $\overline{AB} \cong \overline{DE}$, then you know that the triangles are congruent because equilateral triangles have three congruent sides.



6. $J(3, 9)$, $K(7, 8)$