Geometry #8: Reasoning & Proof Booklet

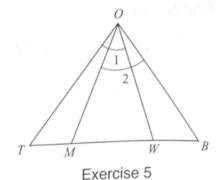
1. After Sara studies the number sequence

1, 1, 2, 3, 5, 8, 13, ...

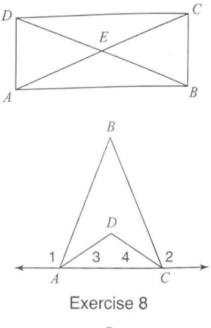
she concludes that 21 is the next number in the sequence. Which type of reasoning did Sara use to arrive at her conclusion?

- (1) circular
- (3) deductive
- (2) inductive

- (4) indirect
- B. Write a two-column proof.
 - 5. Given: $\angle 1 \cong \angle 2$. Prove: $\angle TOM \cong \angle BOW$.



- 6. Given: \overline{AC} and \overline{BD} bisect each other at E, $\overline{AC} \cong \overline{BD}$. Prove: $\triangle AED$ is isosceles.
- 8. Given: $\angle 1 \cong \angle 2$, \overline{AD} bisects $\angle BAC$, \overline{CD} bisects $\angle BCA$. Prove: $\angle 3 \cong \angle 4$.



9. Given: $\overline{SJ} \cong \overline{SK}$, $\overline{JR} \cong \overline{MR}$, $\overline{KT} \cong \overline{MT}$, *M* is the midpoint of \overline{RT} . Prove: $\overline{SR} \cong \overline{ST}$.

