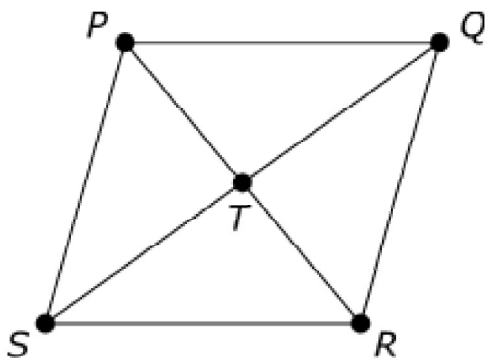Calculator Part (continued)

19.   One method that can be used to prove that the diagonals of a parallelogram bisect each other is shown in the given partial proof.

Given: Quadrilateral PQRS is a parallelogram.

Prove: $PT = RT$ and $ST = QT$

Statements	Reasons
1. Quadrilateral PQRS is a parallelogram	1. Given
2. $\overline{PQ} \parallel \overline{SR}$ $\overline{PS} \parallel \overline{QR}$	2. Definition of parallelogram
3. $\angle PQS \cong \angle RSQ$ $\angle QPR \cong \angle SRP$	3. ?
4. ?	4. Opposite sides of a Parallelogram are congruent
5. $\triangle SRT \cong \triangle QPT$	5. ?
6. $\overline{PT} \cong \overline{RT}$ $\overline{ST} \cong \overline{QT}$	6. Corresponding parts of congruent triangles are congruent
7. $PT = RT$ $ST = QT$	7. Definition of congruent line segments

Part A
    Which reason justifies the statement for step 3 in the proof?

A.   When 2 parallel lines are intersected by a transversal, same side interior angles are congruent.

B.   When 2 parallel lines are intersected by a transversal, alternate interior angles are congruent.

C.   When 2 parallel lines are intersected by a transversal, same side interior angles are supplementary.

D.   When 2 parallel lines are intersected by a transversal, alternate interior angles are supplementary.

Part B
    Which statement is justified by the reason in step 4?

A. $\overline{PQ} \cong \overline{RS}$

B. $\overline{PQ} \cong \overline{SP}$

C. $\overline{PT} \cong \overline{TR}$

D. $\overline{SQ} \cong \overline{PR}$

Part C
    Which reason justifies the statement for step 5 in the proof?

A.   side-side-side triangle congruence

B.   side-angle-side triangle congruence

C.   angle-side-angle triangle congruence

D.   angle-angle-side triangle congruence