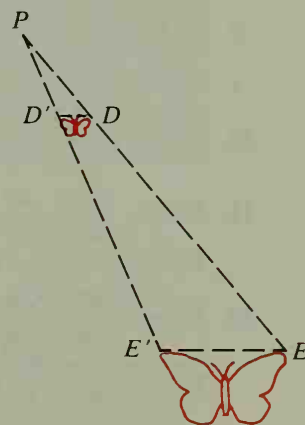
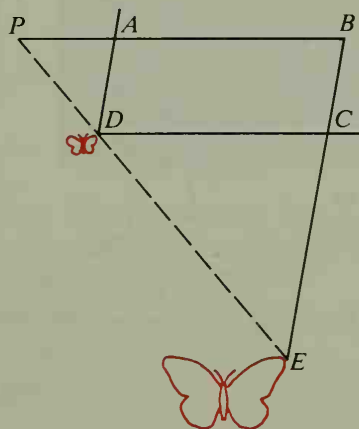


7. Suppose you want to prove that $\triangle RST \sim \triangle XYZ$ by the SSS Similarity Theorem. State the extended proportion you would need to prove first.
8. Suppose you want to prove that $\triangle RST \sim \triangle XYZ$ by the SAS Similarity Theorem. If you know that $\angle R \cong \angle X$, what else do you need to prove?
9. A *pantograph* is a tool for enlarging or reducing maps and drawings. Four bars are pinned together at A , B , C , and D so that $ABCD$ is a parallelogram and points P , D , and E lie on a line. Point P is fixed to the drawing board. To enlarge a figure, the artist inserts a stylus at D , a pen or pencil at E , and guides the stylus so that it traces the original. As D moves, the angles of the parallelogram change, but P , D , and E remain collinear. Suppose PA is 3 units and AB is 7 units.



- a. Explain why $\triangle PBE \sim \triangle PAD$.
- b. What is the ratio of PB to PA ?
- c. What is the ratio of PE to PD ?
- d. What is the ratio of the butterfly's wingspan, $E'E$, in the enlargement to its wingspan, $D'D$, in the original?