Lesson 11: Definition of Congruence and Some Basic Properties

Classwork

Exercise 1

a. Describe the sequence of basic rigid motions that shows \( S_1 \cong S_2 \).
b. Describe the sequence of basic rigid motions that shows $S_2 \cong S_3$. 

\[ S_2 \rightarrow S_3 \rightarrow S_1 \rightarrow S_2 \]
c. Describe a sequence of basic rigid motions that shows $S_1 \cong S_3$. 
Exercise 2

Perform the sequence of a translation followed by a rotation of Figure \( XYZ \), where \( T \) is a translation along a vector \( \overrightarrow{AB} \), and \( R \) is a rotation of \( d \) degrees (you choose \( d \)) around a center \( O \). Label the transformed figure \( X'Y'Z' \).
Is \( XYZ \cong X'Y'Z' \)?