G.C.A.1: Similarity Proofs

1 As shown in the diagram below, circle A has a radius of 3 and circle B has a radius of 5.



Use transformations to explain why circles *A* and *B* are similar.

G.C.A.1: Similarity Proofs Answer Section

1 ANS:

Circle *A* can be mapped onto circle *B* by first translating circle *A* along vector \overline{AB} such that *A* maps onto *B*, and then dilating circle *A*, centered at *A*, by a scale factor of $\frac{5}{3}$. Since there exists a sequence of transformations that maps circle *A* onto circle *B*, circle *A* is similar to circle *B*.

REF: spr1404geo