

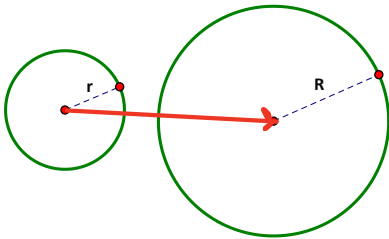
# Circles – Circle Transformations

G.C.A.1

Notes Section 12.1

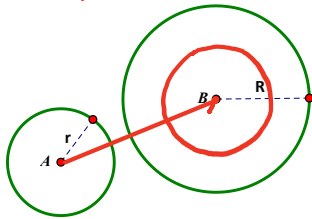
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ALL CIRCLES ARE SIMILAR.



Show how Circle A is similar to Circle B by using similarity transformations.

Translate  $\odot A$  by  $\vec{AB}$ , dilate by  $\frac{R}{r}$



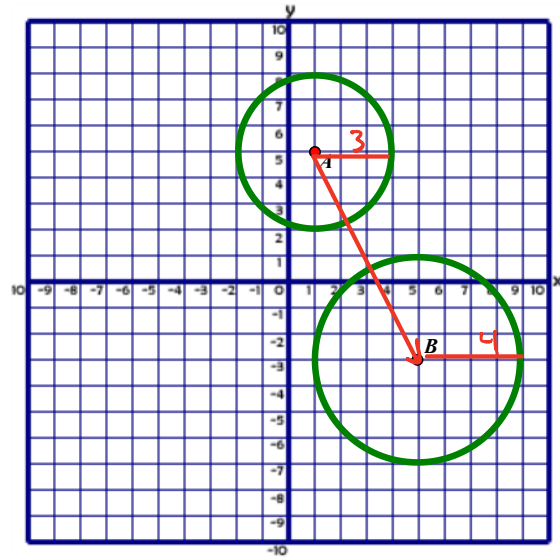
Given Circle A and Circle B with radii,  $r$  and  $R$ , respectively.

Translate Circle A by vector  $\vec{AB}$ . This will create concentric circles.

Dilate circle A by a factor of  $\frac{R}{r}$ .

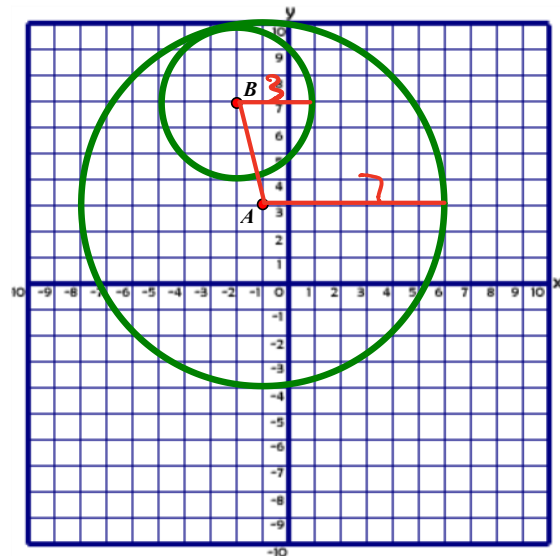
Determine the translation vector and scale factor of the dilation for the following similarity transformations.

Circle A to Circle B



Translate Vector  $\langle 4, -8 \rangle$ , then  $D_B, \frac{4}{3}(\odot A) = \odot B$

Circle B to Circle A



Translate Vector  $\langle 1, -4 \rangle$ , then  $D_A, \frac{3}{4}(\odot B) = \odot A$

