

$$\begin{array}{c}
 x \cdot \left(\text{ring with center } \mathbf{a} \text{ and radius } b \right) + y \cdot \left(\text{ring with center } \mathbf{a}' \text{ and radius } b' \right) = \left(\text{ring with center } \mathbf{a}'' \text{ and radius } b'' \right)
 \end{array}
 \qquad
 \begin{array}{l}
 \mathbf{a}'' = x \cdot \mathbf{a} + y \cdot \mathbf{a}' \\
 b'' = x \cdot b + y \cdot b'
 \end{array}$$