

**Answer on Question #55652 – Math – Complex Analysis**

A circle in the  $z$ -plane has its center at  $z=3$  and a radius of 2 units. Determine its image in  $w$ -plane when transformed by  $w=1/2$ .

**Solution**

Image in  $w$ -plane is  $1/2$  when transformed by  $w=1/2$ .

Image in  $w$ -plane is a circle centered at  $z=1.5$  and a radius of 1 when transformed by  $w = \frac{1}{2}z$ .