6.6.1 How do circles centered on the origin in the z-plane transform for

(a) 
$$w_1(z) = z + \frac{1}{z}$$
,

(b) 
$$w_2(z) = z - \frac{1}{z}$$
,

for 
$$z \neq 0$$
?

What happens when  $|z| \rightarrow 1$ ?