b) $\sum_{n=0}^{\infty} (2^n - 1) c_n z^n$

$a_n = (2^n - 1) c_n \Rightarrow \frac{1}{R'} = \limsup \sqrt[n]{|(2^n-1) c_n|} =$

$= \limsup \sqrt[n]{2^n - 1} \cdot \sqrt[n]{|c_n|} \underset{\uparrow}{=} \lim_{n\to\infty} \sqrt[n]{2^n-1} \cdot \limsup \sqrt[n]{|c_n|} = 2 \cdot \frac{1}{R}$

$\exists \lim_{n\to\infty} \sqrt[n]{2^n-1} = 2$

$\Rightarrow R' = \frac{R}{2}$

c) $\sum_{n=0}^{\infty} c_n^k z^n$

$a_n = c_n^k \Rightarrow \frac{1}{R'} = \limsup \sqrt[n]{|c_n^k|} = \limsup \left(\sqrt[n]{|c_n|}\right)^k =$

$= \left(\limsup \sqrt[n]{|c_n|}\right)^k = \left(\frac{1}{R}\right)^k \Rightarrow R' = R^k$

d) $\sum_{n=0}^{\infty} n^n c_n z^n$

$a_n = n^n c_n \Rightarrow \frac{1}{R'} = \limsup \sqrt[n]{|n^n c_n|} = \limsup \sqrt[n]{n^n} \cdot \sqrt[n]{|c_n|} =$

$= \limsup n \cdot \sqrt[n]{|c_n|} \underset{\uparrow}{=} \infty \Rightarrow R' = 0$

$\lim_{n\to\infty} n = \infty$