Nájdite obor konvergencie mocninového radu:

1. $\sum_{n=1}^{\infty} n z^n$ $\qquad \big[K(0,1) = \{z \in \mathbb{C}; |z| < 1\}\big]$

2. $\sum_{n=1}^{\infty} n^n z^n$ $\qquad \big[$konverguje len v strede $a = 0\big]$

3. $\sum_{n=1}^{\infty} \frac{n}{2^n} z^n$ $\qquad \big[K(0,2) = \{z \in \mathbb{C}; |z| < 2\}\big]$

4. $\sum_{n=0}^{\infty} \frac{z^{2n}}{2^n}$ $\qquad \big[K(0,\sqrt{2}) = \{z \in \mathbb{C}; |z| < \sqrt{2}\}\big]$

5. $\sum_{n=0}^{\infty} \Big(\frac{z-1}{5}\Big)^n$ $\qquad \big[K(1,5) = \{z \in \mathbb{C}; |z-1| < 5\}\big]$

6. $\sum_{n=0}^{\infty} \frac{2+in}{2^n}(z+i)^n$ $\qquad \big[K(-i,2) = \{z \in \mathbb{C}; |z+i| < 2\}\big]$

7. $\sum_{n=0}^{\infty} \frac{(1-2i)^n}{(n+1)(n+3)}(z+3i)^n$ $\qquad \big[\overline{K(-3i, \frac{1}{\sqrt{5}})} = \{z \in \mathbb{C}; |z+3i| \leq \frac{1}{\sqrt{5}}\}\big]$

8. $\sum_{n=1}^{\infty} \frac{n(1+i)^n}{(z-1+2i)^n}$ $\qquad \big[\mathbb{C} \smallsetminus \overline{K(1-2i,\sqrt{2})} = \{z \in \mathbb{C}; |z-1+2i| > \sqrt{2}\}\big]$

9. $\sum_{n=1}^{\infty} \frac{1}{3n^2+2}\Big(\frac{3-4i}{z+5i}\Big)^n$ $\qquad \big[\mathbb{C} \smallsetminus K(-5i,5) = \{z \in \mathbb{C}; |z+5i| \geq 5\}\big]$

10. $\sum_{n=0}^{\infty} \Big(\frac{z-1}{5}\Big)^n + \sum_{n=1}^{\infty} \Big(\frac{2}{z-1}\Big)^n$ $\qquad \big[P(1,2,5) = \{z \in \mathbb{C}; 2 < |z-1| < 5\}\big]$