Př: 56/3:

1. $\sum_{n=0}^{\infty} \left(\frac{2}{3}\right)^n = \frac{1}{1-2/3} = 3$
2. $\sum_{n=0}^{\infty} \left(\frac{\sqrt{3}}{(\sqrt{3})^n}\right)^n = \frac{\sqrt{3}}{1-\sqrt{1/3}} = \frac{\sqrt{3}\left(1+\sqrt{1/3}\right)}{2/3} = 3\frac{\sqrt{3}+1}{2}$
3. $\sum_{n=0}^{\infty} \frac{1}{a^{2n}}\left(1-\frac{1}{a}\right) = \frac{1-1/a}{1-1/a^2} = \frac{1}{1+1/a} = \frac{a}{1+a}$
4. $\sum_{n=0}^{\infty} \left(\sin^3 a\right)^n = \frac{1}{1-\sin^3 a}$
5. Evidetně $\sqrt{2} = q > 1$ tedy diverguje!

Př: 56/4:

$$\frac{a}{1-1/3} = 10$$
$$a = 10\frac{2}{3} = \frac{20}{3}$$

Př: 56/5:

$$\sum_{n=1}^{\infty} \frac{n}{2^n} = \sum_{n=1}^{\infty}\sum_{m=n}^{\infty} \frac{1}{2^m} = \sum_{n=1}^{\infty} \frac{1/2^n}{1-1/2} = \sum_{n=1}^{\infty} \frac{2}{2^n} = \frac{1}{1-1/2} = 2$$