Power Series	Functions as Power Series	Taylor & Maclaurin	Taylor Polynomials	Random
100 What are the two things to find when doing Power Series?	**100** Find the IoC: $g(x)=(x^3)/(1+x^7)$	**100** What makes a Taylor series into a Maclaurin series?	**100** Consider the following function. $f(x)=1/x$, $a=1$, $n=2$, $0.7\leq x\leq 1.3$ Approximate f by a Taylor polynomial with degree n at the number a.	**100** What planet has the strongest gravity?
200 What is the primary test to find the radius of convergence?	**200** Find a power series representation: $g(x)= (x^3)/(1+x^7)$	**200** Find the function represented by the given power series: $\Sigma\ (-1)^n(x^{8n})/(n!)$		**200** When Amazon started what was the only product they sold?
300 Find the radius & interval of convergence $\Sigma\ (x^n/n4^n)$ $n=1$ to ∞	**300** Find the power series representation: $f(x)= 6/(1+7x^4)$	**300** Find the Taylor series for f centered at 5 if: $f^{(n)}(5)=((-1)^n n!)/(4^n(n+3))$	**300** A car is moving with speed 50 m/s and acceleration 4 m/s^2 at a given instant. Using a second-degree Taylor polynomial, estimate how far the car moves in the next second.	**300** What singer holds the most Grammy nominations?
400 Find the RoC & IoC. $\Sigma\ ((n+1)(x-2)^n)/(2n+1)!$ $n=0$ to ∞	**400** Find the IoC: $f(x)= (3x^2)/(5-2\sqrt[3]{x})$	**400** What is the radius of convergence R of the Taylor series? $f^{(n)}(5)=((-1)^n n!)/(4^n(n+3))$		**400** How long is a marathon?
500 Find the RoC & IoC: $\Sigma\ ((x-8)^n)/(n^4+1)$ $n=0$ to ∞	**500** Find the power series representation: $f(x)= (3x^2)/(5-2\sqrt[3]{x})$	**500** Find the Maclaurin series: $f(x)= 9(1-x)^{-2}$	**500** Consider the following function $f(x)=\sin(x)$, $a=\pi/6$, $n=4$, $0\leq x\leq \pi/3$ Approximate f by a Taylor polynomial with degree n at the number a.	**500** What is the closest living relative to the T-Rex?