Section 11-8 Homework Hints:

3.	$\sum_{n=1}^{\infty}(-1)nx^n$	Will converge only for $x=0$
4.	$\sum_{n=1}^{\infty}\frac{(-1)^n x^n}{\sqrt[3]{n}}$	Use Ratio or Root Test
5.	$\sum_{n=1}^{\infty}\frac{x^n}{2n-1}$	Use Ratio or Root Test
6.	$\sum_{n=1}^{\infty}\frac{(-1)^n x^n}{n^2}$	Use Ratio or Root Test
7.	$\sum_{n=1}^{\infty}\frac{x^n}{n!}$	Use Ratio Test
8.	$\sum_{n=1}^{\infty}n^n x^n$	Use Ratio or Root Test
9.	$\sum_{n=1}^{\infty}(-1)^n\frac{n^2 x^n}{2^n}$	Use Ratio or Root Test
10.	$\sum_{n=1}^{\infty}\frac{10^n x^n}{n^3}$	Use Ratio or Root Test
11.	$\sum_{n=1}^{\infty}\frac{(-3)^n}{n\sqrt{n}}x^n$	Use Ratio or Root Test
12.	$\sum_{n=1}^{\infty}\frac{x^n}{n3^n}$	Use Ratio or Root Test
13.	$\sum_{n=1}^{\infty}(-1)^n\frac{x^n}{4^n\ln(n)}$	Use Ratio or Root Test
14.	$\sum_{n=1}^{\infty}(-1)^n\frac{x^{2n+1}}{(2n+1)!}$	Use Ratio Test
15.	$\sum_{n=1}^{\infty}\frac{(x-2)^n}{n^n}$	Use Ratio or Root Test
16.	$\sum_{n=1}^{\infty}(-1)^n\frac{(x-3)^n}{2n+1}$	Use Ratio or Root Test
17.	$\sum_{n=1}^{\infty}\frac{3^n(x+4)^n}{\sqrt{n}}$	Use Ratio or Root Test
18.	$\sum_{n=1}^{\infty}\frac{n}{4^n}(x+1)^n$	Use Ratio or Root Test
19.	$\sum_{n=1}^{\infty}\frac{(x-2)^n}{n^n}$	Use Ratio or Root Test

20.	$\sum_{n=1}^{\infty} \frac{(2x-1)^n}{5^n \cdot \sqrt{n}}$	Use Ratio or Root Test
21.	$\sum_{n=1}^{\infty} \frac{n}{b^n}(x-a)^n \qquad (b>0)$	Use Ratio or Root Test
22.	$\sum_{n=1}^{\infty} \frac{b^n}{\ln(n)}(x-a)^n \qquad (b>0)$	Use Ratio or Root Test
23.	$\sum_{n=1}^{\infty} n!(2x-1)^n$	Use Ratio Test
24.	$\sum_{n=1}^{\infty} \frac{n^2 x^n}{2 \cdot 4 \cdot 6 \cdot \cdots \cdot (2n)} = \sum_{n=1}^{\infty} \frac{n^2 x^n}{2^n \cdot n!}$	Use Ratio Test
25.	$\sum_{n=1}^{\infty} \frac{(5x-4)^n}{n^3}$	Use Ratio or Root Test
26.	$\sum_{n=1}^{\infty} \frac{x^{2n}}{n(\ln(n))^2}$	Use Ratio or Root Test
27.	$\sum_{n=1}^{\infty} \frac{x^n}{1 \cdot 3 \cdot 5 \cdot \cdots \cdot (2n-1)} = \sum_{n=1}^{\infty} \frac{x^n}{\left(\frac{(2n)!}{2^n \cdot n!}\right)}$	Use Ratio Test
28.	$\sum_{n=1}^{\infty} \frac{n! x^n}{1 \cdot 3 \cdot 5 \cdot \cdots \cdot (2n-1)} = \sum_{n=1}^{\infty} \frac{n! x^n}{\left(\frac{(2n)!}{2^n \cdot n!}\right)}$	Use Ratio Test

If $k \geq 1$ is a constant, then:

$\lim_{n\to\infty} \sqrt[n]{n^k} = 1$ $\qquad$ $\lim_{n\to\infty} \sqrt[n]{k} = 1$ $\qquad$ $\lim_{n\to\infty} \sqrt[n]{n!} = \infty$ $\qquad$ $\lim_{n\to\infty} \sqrt[n]{\left[\ln(n)\right]^k} = 1$