Sequences and Series 5-14-08

Page 746 27-47,skip 4's

30. $\sum_{k=1}^{n+1} k^3$

34. 57

38. 2001

42. $36 - 6^{-8} \approx 36$

46. $4\left(1+2^{-11}\right) \approx 4.002$

$$\sum_{k=1}^{n} a_k =$$

1. Determine the limit of the infinite series.

$$\lim_{n\to\infty} \sum_{k=1}^{n} 5\left(-\tfrac{1}{2}\right)^{k-1} =$$

Sequences and Series 5-14-08

2. Find the first six partial sums of the following infinite series. If the sums have a finite limit, write "convergent". If not, write "divergent."
   a. $0.3+0.03+0.003+0.0003+........$

   b. $1+2+4+8.......$

   c. $-4+4+-4+4.......$

3. Determine whether the infinite geometric series converges. If it does, find its sum.

$$4+\frac{4}{3}+\frac{4}{9}+\frac{4}{27}.......$$

Sequences and Series **5-14-08**

4. Determine whether the infinite geometric series converges. If it does, find its sum.

$$\sum_{n=1}^{\infty} 8\left(\tfrac{1}{7}\right)^{n} =$$

5. Express the rational number as a fraction of integers.

$$0.314314314314........$$