Infinite Geometric Series:

1. Find the missing term:
   a) a = 5 , r = 1/3 b) a = -2, r = 2/3
   c) a = 7, Sn = 11 d) a = -4/5, Sn = 20

2. Find the sum:
   a) $\sum_{j=1}^{\infty} -2(1/3)^{j-1}$ b) $\sum_{j=1}^{\infty} 5(2/3)^{j-1}$ c) $\sum_{m=1}^{\infty} 9(1/4)^{m-1}$

3. a) A rubber ball dropped from a height of 34 meters rebounded on each bounce 5/8 of the height from which it fell. How far did it travel:
      i) in the 6^{th} bounce
      ii) in 10 bounces
      iii) in coming to rest

   b) Air resistance causes the path of each swing (after the first) of a pendulum bob to be 0.98 as long as that of the preceding swing. If the path of the first swing is 15 centimeters long, find how far did it travel:
      i) in the 5^{th} swing
      ii) in 8 swings
      iii) in coming to rest

4. Convert the following repeating decimals to a fraction:
   a) $0.\overline{371}$ b) $0.2\overline{6832}$ c) $4.\overline{57}$

General Problems:

1. Write each series in summation notation:
   a) (–21) + 7 + (-7/3) + 7/9 + … to 12 terms
   b) 3 + (-6) + (12) + (-24) + …. To 20 terms

2. Expand and find the sum:
   a) $\sum_{n=1}^{7} 4(-3)^{n-1}$ b) $\sum_{n=4}^{9} -2(3)^{n-1}$