Calculus 12
4-2 Questions

1. Find the sum of each of the following series or state that the series is divergent.

a) $1+\frac{1}{3}+\frac{1}{9}+\frac{1}{27}+\ldots$

b) $1-\frac{2}{3}+\frac{4}{9}-\frac{8}{27}+\ldots$

c) $\frac{1}{4}-\frac{5}{16}+\frac{25}{64}-\frac{125}{256}+\ldots$

d) $3+\frac{3}{5}+\frac{3}{25}+\frac{3}{125}+\ldots$

e) $1-2+4-8+\ldots$

f) $60+40+\frac{80}{3}+\frac{160}{9}+\ldots$

g) $0.1+0.05+0.025+0.0125+\ldots$

h) $-3+3-3+3-3+\ldots$

2. Find the sum of each of the following series.

a) $\sum_{n=1}^{\infty} 2\left(\frac{3}{4}\right)^{n-1}$

b) $\sum_{n=1}^{\infty} \left(-\frac{2}{5}\right)^{n}$