

(C2-7.5a) Name:

Homework Questions 5 – Sum to Infinity

1. Find the sum to infinity of these sequences

a) 6, 3, 1.5, 0.75

12

b) 25, 20, 16, 12.8

125

c) 100, -20, 4, -0.8

$83\frac{1}{3}$

2. Find the common ratio and hence the first 4 terms of these geometric sequences if the first term is given and also the sum to infinity if given.

a) $S_{\infty} = 6\frac{2}{3}$ $t_1 = 5$

5, 1.25, 0.3125, 0.078125

b) $S_{\infty} = 127\frac{1}{9}$ $t^1 = 143$

143, -17.875, 2.234375, -0.27929

c) $S_{\infty} = 96\frac{2}{3}$ $t_1 = 29$

29, 20.3, 14.21, 9.947

d) $S_{\infty} = 40$ $t_1 = 60$

60, -30, 15, -7.5