Assignment 8.4 – Geometric Series

1) Identify the values of t_1 and r for each geometric series.

a) 0.58 + 5.8 + 58 + …

b) – 4 + 12 – 36 + …

c) 2.8 + 3.92 + 5.488 + …

2) Determine the sum of each geometric series.

a) 2 – 4 + 8 + … –1024

b) 0.005 + 0.045 + 0.405 + …+ 295.245

c) 3 + 3.3 + 3.63 + … + 4.83153

3) Determine the sum of each geometric series.

a) 5 + 10 + 20 + …+ (S_7)

b) 1.5 + 4.05 + 10.935 + …+ (S_9)

c) $t_1 = 6$ and $t_5 = 30.375$. Solve for S_5

d) $t_1 = 2.5$, $r = 5$, $n = 6$

4) Identify the values of t_1 for each geometric series.

a) $S_n = 65.9375$, $t_n = 25.3125$ and r =1.5

b) $S_n = 36.75$, $n = 6$ and r = –2

5) The third term of a geometric series is 45. The eighth term is –10 935. Determine the sum of the first eight terms.