

Math173 – Chapter 11: Summary

Arithmetic

n^{th} term of a sequence

$$a_n = a_1 + (n-1)d$$

n^{th} partial sum (sum of the first n terms)

$$S_n = \frac{n}{2}(a_1 + a_n) = \frac{n}{2}(2a_1 + (n-1)d)$$

Geometric

n^{th} term of a sequence

$$a_n = a_1 r^{n-1}$$

n^{th} partial sum (sum of the first n terms)

$$S_n = a_1 \frac{(1-r^n)}{1-r}$$

infinite sum

$$S_\infty = \frac{a_1}{1-r} \quad \text{provided that } |r| < 1$$