Unit 7 – Sequences, Series, & Statistics
**Day 1 Assignment: Sequences & Series**

**Part 1**: Find the first four terms of each sequence.

1. an = 3n + 2
2. an = 2n – 1
3. an = -3an – 1, where a1 = -2
4. an = 2an – 1, where a1 = 3

**Part 2**: Determine whether the sequence is arithmetic or geometric.

1. 10, 20, 30, 40, ….
2. 2, -6, 18, -54, …

**Part 3:** Evaluate each arithmetic series using the formula Sn = $\frac{n}{2}$(a1 + an).

1. 2 + 4 + 6 + 8 + …, n = 10
2. -5 – 25 – 45 - …, n = 9

**Part 4:** Evaluate each geometric series using the formula Sn = $\frac{a\_{1}(1- r^{n})}{1-r}$.

1. 2 + 4 + 8 + 16 + …, n = 10
2. -5 + 25 – 125 + 625 - …, n = 9
3. 9 - $\frac{9}{7}$ + $\frac{9}{49}$ - … + 9$∙(-\frac{1}{7}) ^{400}$
4. 8 + 8$ ∙$ (2)1 + 8$ ∙($2)2 + … + 8$ ∙ $(2)15