The sum of a Finite Arithmetic Series:

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

Sum of the terms in a Finite Geometric Series

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

Sum of an Infinite Geometric Series

If |r|<1: $S = \frac{a_1}{1 - r}$

Bellwork Friday, June 6, 2014

Find the sum of each series.

1. 9 + 17 + 25 + 33 + ... + 185

2. 0.125 + 0.5 + 2 + ... +33,554,432

3. 334,611 + 111,537 + 37,179 + ...

Evaluate each.

3. $\sum_{n=1}^{5} 3n^2 + 1$

4. $\sum_{n=1}^{40} 4n - 1$

5. $\sum_{n=1}^{12} 5(3)^n$

6. $\sum_{n=1}^{\infty} 56(0.6)^n$