■ **Find (a) the n^{th} term of each of the following sequences and (b) the sum of the first n-terms of each sequence.**

[1] 6, 12, 24, 48, 96, 192, …

[2] $2, -\frac{4}{3}, \frac{8}{9}, -\frac{16}{27}, \frac{32}{81}, -\frac{64}{243}, \ldots$

[3] 1, 16, 49, 100, 169, 256, …

■ **Find each sum.**

[4] $\sum_{i=1}^{n} i^2$, for $n = 4$

[5] $\sum_{i=1}^{n-1} i^2$, for $n = 4$

[6] $\sum_{i=1}^{n-2} i^2$, for $n = 4$

[7] $\sum_{i=1}^{n-3} i^2$, for $n = 4$

[8] $\sum_{i=1}^{n} i^2$, for $n = 4$

[9] $\sum_{i=1}^{n-1} i^2$, for $n = 4$

■ **Rewrite each sum with the correct lower limit or upper limit.**

[10] $\sum_{i=k}^{n} k = 1 + 2 + \sum_{i=\mathbf{?}}^{n} k$

[11] $\sum_{i=k}^{n} k = 1 + 2 + \sum_{i=\mathbf{?}}^{n} k$

[12] $\sum_{i=k}^{n} k = n + (n-1) + \sum_{i=\mathbf{?}}^{\mathbf{?}} k$

■ **Evaluate each sum.**

[13] $\sum_{i=k}^{n} (2k - 1) + k^2$

[14] $\sum_{i=k}^{n} 2k + 3 \cdot 5^{k}$

[15] $\sum_{i=k}^{n} 2k + 3 \cdot 5^{k-1}$