1. Find the first five terms of the sequence. (Assume that n begins with 1.)

$a_n = 5n - 6$

2. Simplify the factorial expression.(show work)

$\dfrac{9!}{6!}$

3. Find a formula for a_n for the arithmetic sequence.

$16, 11, 6, 1, -4, ...$

4. Find the sum of the finite arithmetic sequence.

1 to 200

5. The first two terms of the arithmetic sequence are given. Find the indicated term.

$a_1 = -1, a_2 = 6, a_{11} = \boxed{}$

6. Find the partial sum.(show work

$$\sum_{n=1}^{240} -3n - 1$$

7. Write an expression for the nth term of the geometric sequence. Then find the indicated nth term of the geometric sequence.

12
22th term : 8, 32, 128, ...

10. Find the sum using the formulas for the sums of powers of integers.(show work)

$$\sum_{i=1}^{7}\left(5i - 8i^3\right)$$

8. Find the sum of the finite geometric sequence(show work)

$$\sum_{n=1}^{6}(-6)^{n-1}$$

9. Find the sum of the infinite geometric series. (show work) Round your answer to the nearest whole number.

$$\sum_{n=0}^{\infty}\left(\frac{1}{8}\right)^{n}$$