PreCalculus Honors **Name** _____
9.5 Series **Calculators Allowed** **Period** _____

1. Find the sum of the first thirty terms of -2, 3, 8, …

2,115

2. Find the sum of the first twenty positive multiples of 3.

630

3. Find the sum of the series. $\sum_{k=1}^{25} 7-2k$

-475

4. How many terms of -10, -7, -4, … must be added to give a sum of 200?

16

5. Find the sum of all positive integers less than 500 that are multiples of 11.

11,385

6. If $t_4 = \frac{1}{2}$ and $t_9 = \frac{1}{64}$, find the sum of the first 12 terms of the geometric series.

$\frac{4095}{512} \approx 7.998$

7. Find the common ratio in a geometric sequence is $a_1 = -8$, and $S_3 = -8$.

$r = \{0, -1\}$

8. Find the seventh term in a geometric sequence r = ½ and $S_7 = \frac{381}{4}$

$\frac{3}{4}$

9. Find Sn (the sum of the first n terms) for a geometric sequence in which $a_1 = 75$, r = 1.4, and $a_n = 288.12$

820.92

10. Find the sum of the infinite geometric series: $\sum_{k=1}^{\infty} 8\left(-\frac{1}{2}\right)^{k-1}$

$\frac{16}{3} = 5\frac{1}{3}$

11. Find the sum of the infinite geometric series: $35 - \frac{35}{\sqrt{6}} + \frac{35}{6} - \ldots$

$42 - 7\sqrt{6} \approx 24.854$

12. Write the first three terms of the infinite geometric sequence for which r = $-\frac{3}{4}$ and $S_\infty = 16$

28, −21, 15.75