SEQUENCES AND SERIES WORKSHEET

NAME:_____

Use the formulas provided to you to complete the following. Determine what type of sequence the following are and then complete the problem.

1. $a=-5$, $d=4$, $n=9$; find the nth term

2. $a=5$, $n=4$, $r=3$; find the nth term

3. $a=3$, $d=-4$, $n=6$; find the nth term

4. $a=-4$, $n=6$, $r=-2$; find the nth term

Find the missing terms in each sequence. You are given what type of sequence represents each one.

5. _____, _____, 2, _____, _____, 54 (geometric)

6. 3, _____, _____, 20 (arithmetic)

7. 5, _____, _____, 27 (arithmetic)

8. 32, _____, _____, _____, 162 (geometric)

9. _____, -10, _____, _____, _____, 14 (arithmetic)

10. Find the 15th term for the arithmetic sequence –3, 3, 9, …

11. Find the first 4 terms of the geometric sequence with $a=-6$ and $r=-2/3$

Find S_n for each series described. You will need to determine if the series is arithmetic or geometric.

12. $160 + 80 + 40 + …$, $n=6$

13. $a=5$, $r=-1/2$, $n=7$

14. $a=13$, $d=-6$, $n=21$

15. $d=-2/3$, $n=16$, $u_n=44$

Find "a" for each geometric series.

16. $S_n=-55$, $r=-2/3$, $n=5$

17. $S_n=2457$, $a=3072$, $r=-4$

Find the first 3 terms of each arithmetic series.

18. $a=14$, $u_n=-85$, $S_n=-1207$

19. $n=16$, $u_n =15$, $S_n=-120$