**Pre-Calculus Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Practice Worksheet**

**8.2 – 8.3 Date\_\_\_\_\_\_\_\_\_Per\_\_\_\_\_\_\_\_\_\_\_**

***Tell whether the following sequences are arithmetic or geometric, find the next term in the sequence, and then find d or r.***

1. 3, 12, 48, 192, 768,... 2. -3, -1, 1, 3, 5, ...

3. 100, 50, 25, ,... 4. 8, 4, 0, -4, -8, -12, ...

***Determine whether the sequence is arithmetic or geometric, write a rule for the nth term of the sequence, and then find a8.***

5. -25, -29, -33, -37, .... \*6. 6, 2, , , , ...

\*7. 128, 32, 8, 2, ... 8. 4, 8, 12, 16, ...

9. 7, 10, 13, 16,… \*10. 3, -12, 48, -192,…

***Write a rule for the nth term of the arithmetic or geometric sequence. Then find a20***

11. *a*5 = 15 and *d* = 5 \*12. *a*2 = 6 and *r* = 2

13. *a*10 = 150 and *d* = -5 \*14. *a*2 = 2, *r* = 

***Write a rule for the nth term of the arithmetic sequence given two terms.***

15. *a*20 = 240, *a*15 = 170 16. *a*16 = 6, *a*20 = 7

***Write a rule for the nth term of the geometric sequence given two terms.***

17. *a*2 = 36, *a*4 = 576 18. *a*2 = 4, *a*5 = 

***Find the sum of the following arithmetic series.***

19. 3 + 6 + 9 + 12 + 15 + 18 +... ; *n* = 25 20. -1 + 2 + 5 + 8 + 11 + 14 + ... ; *n* = 20

21. 22.

***Find the sum of the following geometric series.***

\*23.  ; *n* = 15 \*24. 1000 + 500 + 250 + 125 + ... ; *n* = 20

25. \*26.

**Answers**

1. geometric, r = 4, a6= 3072 2. arithmetic, d = 2, a6 = 7 3. geometric, r = , a6=

4. arithmetic, d = -4, a6 = -16 5. 6.

7. 8. 9.

10. 11. 12.

13. 14. 15.

16. 17. 18.

19. 20. 21.

22. 23. ; 24.

25. 26.