**Chapter 8 Review Packet (Answers)**

1. Arithmetic 16.6, 19.7 2. Arithmetic -10, -4

3. Geometric 243, 729 4. Geometric $\frac{1}{9}$ , $\frac{1}{27}$

5. Arithmetic 17, 22 6. Neither 5, -6

7. 250 8. $\frac{-2}{729}$ 9. $\frac{64}{81}$ 10. -94

11. $a\_{n}=2n+3$ 12. $a\_{n}=12(\frac{1}{4})^{n-1}$

13. 118 14. 82

15. $a\_{n}=-4n-21$ $a\_{15}= -81$

16. $a\_{n}=8n-20$ $a\_{15}= 100$

17.$ a\_{n}=5n+8$ $a\_{15}= 83$

18.$ a\_{n}=-4n-12$ $ a\_{15}= -72$

19. $a\_{n}=3(3)^{n-1}$ $a\_{10}= 59,049$

20. $a\_{n}=2(-5)^{n-1}$ $a\_{10}= -3,906,250$

21. $a\_{n}=3(5)^{n-1}$ $a\_{10}= 5,859,375$

22. $a\_{n}=\frac{10}{9}(3)^{n-1}$ $a\_{10}= 21,870$

23. Arithmetic 126 24. Geometric $\frac{255}{1024}$

25. Geometric 599 $ $26. Arithmetic 240

27. Arithmetic -60 28. Geometric 1275 29. Converges, has a sum

30. Diverges, no sum 31. Converges, has a sum 32) 16

33) 600 34) $\frac{3}{2}$ 35) 15 36) 4 37) No Sum

38) 19 musicians in the 6th row and 84 musicians total

39) a) $\frac{7}{9}$ b) $\frac{5}{33}$ c) $\frac{125}{333}$