

Unit 7 Homework Answers

Homework 7.1

1. arithmetic, $d = 9$ 2. neither 3. Geometric, $r = \frac{1}{6}$ 4. Geometric, $r = 4$
5. arithmetic, $d = -3$ 6. neither 7. $a_n = -2 + 3n$; $a_{20} = 58$ 8. $a_n = -1 + 6n$; $a_{20} = 119$
9. $a_n = -5 + 13n$; $a_{20} = 255$ 10. $a_n = (-4)^{n-1}$; $a_7 = 4096$ 11. $a_n = 6(3)^{n-1}$; $a_7 = 4374$
12. $a_n = 4(6)^{n-1}$; $a_7 = 186,624$ 13. neither 14. arithmetic, $d = 0.5$ 15. Geometric, $r = 0.5$
16. Geometric, $r = 2$ 17. arithmetic, $d = \frac{1}{2}$ 18. Neither 19. $a_n = -5 + 2n$; $a_{20} = 35$
20. $a_n = 10 - 4n$; $a_{20} = -70$ 21. $a_n = 36 - 11n$; $a_{20} = -184$ 22. $a_n = 7(-5)^{n-1}$; $a_7 = 109,375$
23. $a_n = 2\left(\frac{3}{4}\right)^{n-1}$; $a_7 = \frac{729}{2048}$ 24. $a_n = 3\left(-\frac{2}{5}\right)^{n-1}$; $a_7 = \frac{192}{15,625}$ 25. $a_n = -28 + 5n$
26. $a_n = -70 + 9n$ 27. $a_n = 152 - 14n$ 28. $a_n = 5(3)^{n-1}$
29. $a_n = -2(6)^{n-1}$ 30. $a_n = 3(2)^{n-1}$ 31. Should be $37 + (n - 1)(-13)$ $a_n = 50 - 13n$
- 32a. $a_n = 5(2)^{n-1}$ 32b. 75 33. $a_n = 1 + 2n$; 63 band members. 34. Neither
35. arithmetic, $d = 0.75$ 36. arithmetic, $d = \frac{3}{2}$ 37. $a_n = \frac{2}{3} + \frac{2}{3}n$; $a_{20} = \frac{38}{3}$
38. $a_n = \frac{7}{3} - \frac{1}{3}n$; $a_{20} = -\frac{13}{3}$ 39. $a_n = -0.6 + 2.1n$; 41.4 40. $a_n = 7(-0.6)^{n-1}$; $a_7 = 0.326592$
41. $a_n = 5(-2.8)^{n-1}$; $a_7 = 2409.45152$ 42. $a_n = 120(1.5)^{n-1}$; $a_7 = 1366.875$ 43. $a_n = -5 + 9n$
44. $a_n = 9 + 5n$ 45. $a_n = -11 + 3n$ 46. \$100 47. $a_1 = \frac{2y}{n} - x$ 48. \$132,877.70