

L8.1 Arithmetic Sequences

Pg 414, #25, 7, 9, 11, 15, 16, 20, 21, 23

Pg 422 #4, 6, 8, 10, 14, 16, 18

5. 3, 4, 5, 6, 7, 8

7. 1, 4, 9, 16, 25, 36

9. 1, 4, 16, 64, 256, 1024

11. -4, -1, 4, 11, 20, 31

15. arithmetic; $a_5 = 5(5) - 4 = 21$; $a_n = 5n - 4$

16. geometric; $a_5 = 2^4 = 16$; $a_n = 2^{n-1}$

20. -4(1), 4(2), -4(3), 4(4); $a_5 = -4(5) = -20$; $a_n = (-1)^n 4n$

21. arithmetic; $a_5 = \frac{1}{4}(5) = \frac{5}{4}$; $a_n = \frac{n}{4}$

23. $\frac{2}{3(1)}, \frac{2}{3(2)}, \frac{2}{3(3)}, \frac{2}{3(4)}$; $a_5 = \frac{2}{3(5)} = \frac{2}{15}$; $a_n = \frac{2}{3n}$

4. arithmetic; The common difference is -6.

6. not arithmetic; The differences are not constant.

8. not arithmetic; The differences are not constant.

10. arithmetic; The common difference is $\frac{1}{3}$.

14. $a_n = 5n + 2$; 102

16. $a_n = -7n + 93$; -47

18. $a_n = \frac{3}{4}n - \frac{11}{4}$; $\frac{49}{4}$