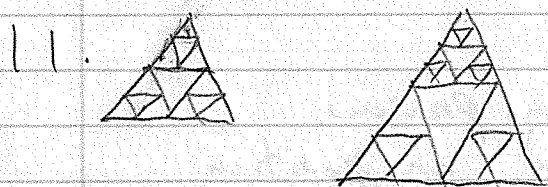


1. minus 3 each time 65, 62, 59
2. multiply by 2 128, 256, 512
3. Add 3, then 4, then 5 and so on 25, 33, 42
4. Add 3 each time 16, 19, 22
5. Divide by 10 0.001, 0.0001, 0.00001
6. multiply by $\frac{1}{2}$ (divide by 2) $\frac{1}{64}$, $\frac{1}{128}$, $\frac{1}{256}$
7. multiply by -2 -128, 256, -512
8. multiply by consecutive whole #'s 720, 5040, 40320
9. add 1, subtract 1, add $\frac{1}{3}$ subtract $\frac{1}{3}$, etc 0, $\frac{1}{7}$, 0



12. $a_n = a_{n-1} + 1$ 3
13. $a_n = a_{n-1} - 2$ 33
14. $a_n = 2a_{n-1}$ 4
15. $a_n = a_{n-1} - 5$ -14
16. $a_n = \frac{1}{4} a_{n-1}$ $\frac{1}{16}$
17. $a_n = \frac{1}{2} a_{n-1}$ $\frac{1}{64}$

18. $a_n = 3 + n$ $a_{14} = 17$ $(14) = 15$
19. $a_n = n + 1$ $a_{12} = 13$
20. $a_n = 3n + 1$ $a_{12} = 37$
21. $a_n = 4n - 1$ $a_{12} = 47$
22. $a_n = -3 + \frac{1}{2}n$ $a_{12} = 3$

23.

23. $A_n = n^2 + 1$ $a_{12} = 145$
 24. Recursive 9, 21, 45, 93, 189
 25. Explicit 0, 1, 3, 6, 10
 26. Explicit -24, -21, -16, -9, 0
 27. Recursive 6, -18, 54, -162, 486
 28. Explicit -6, -18, -38, -66, -102
 29. Explicit 3, 9, 19, 33, 51
 30. Explicit 5, 16, 15, 20, 25
 31. Recursive 323, 306, 289, 272, 255

32. 18, 42, 59

42. A_{n-2} and A_{n-1}

43. Recursive finds next term given previous
 Explicit gives next term based on position

45. $a_2 = 2$ $a_4 = 26$ $a_6 = 456977$
 $a_3 = 5$ $a_5 = 677$ $a_7 = 2.088279785 \times 10^{11}$

46. $a_4 = 24$ 48. $a_4 = 54$
 $a_5 = 78$ $a_5 = 128$
 $a_6 = 240$ $a_6 = 250$
 $a_7 = 726$ $a_7 = 432$

47. $a_4 = 25$ 49. 3.2, 4.1667, 5.1429, 6.125
 $a_5 = 36$ 50. 0.83, 0.85714, 0.875, 0.8
 $a_6 = 49$
 $a_7 = 64$

52. $A_n = 10 \cdot 2^{n-1}$ or $5 \cdot 2^n$

54. $A_n = -2\left(\frac{1}{2}\right)^{n-1}$ or $-4\left(\frac{1}{2}\right)^n$

53. $A_n = -4 - n$

55. $A_n = 3 + 4n$

or
 $1 + 4(n-1)$