

$$\begin{array}{c} 1 \\ \downarrow \\ 1 \\ \downarrow \\ 1 \\ \downarrow \\ 1 \end{array} \quad a_n = 4n+1 \quad a_1 = 4 \times 1 + 1 = 5$$

$$S_1 = \frac{n}{2} (2a_1 + (n-1)d) \quad S_1 = 5(1 + (4 \times 1)) = 5 \times 5 = 25$$

$$a_1 + a_2 + a_3 + a_4 = 5 + 9 + 13 + 17 = 44$$

$$1, \sqrt{3}, 2, \sqrt{3}, 3, \sqrt{3}, \dots \quad a_n = (1-\sqrt{3})n + 2\sqrt{3} \quad a_1 - a_{100} = (1-\sqrt{3}) \times 1 + 2\sqrt{3} - ((1-\sqrt{3}) \times 100 + 2\sqrt{3}) = -99(1-\sqrt{3}) = 99(\sqrt{3}-1)$$

$$a^x \times a^x = a^{2x} \quad 3 \times 2^x + 2 \times 2^x = 2^y \quad 2^x(3+2) = 2^y \quad 2^x \times 5 = 2^y \quad 2^x + 1 = 5 - 2^x \quad 2^x = 1 \quad x=1$$

$$y(2x-1) = 2x-5+yx \quad y(\frac{1}{y}) = 5, y(\frac{1}{y}) = 1, y(\frac{1}{y}) = 1 \quad 1-5, 1-1, 5 \quad x = \frac{1}{5} \quad a_n = 3n-4 \quad a_5 = 3 \times 5 - 4 = 11$$

$$2, 5, 11, \dots, b_n = 3n-1 \quad 3, 5, 11, \dots, a_n = 2n+1 \quad c_n = 9n-1 \quad a_1 = 3 \quad a_{n-1} = 3 \quad 4n \leq 4 \quad n \leq 1$$

$$\begin{aligned}
 a_1 + a_r + a_r &= r1 \rightarrow 3a_1 + 3d = r1 \rightarrow a_1 + d = V \\
 a_1 + a_r + a_r &= 1.2 \rightarrow 3a_1 + 3d = 1.2 \rightarrow a_1 + d = r1 \\
 -a_1 + a_1 + 3d + a_1 + 3d & \quad \quad \quad d = r1
 \end{aligned}$$

$$\begin{aligned}
 3a_1 + 3d \rightarrow a_1 = -r1 \quad a_r - a_r + a_1 = a_1 + 3d - a_1 \quad -d + a_1 = a_1 + d = r1 - r1 = V \\
 a_1 = -r1 \quad = \frac{V}{-r1} = \frac{-1}{r1}
 \end{aligned}$$

$$\begin{aligned}
 a_1 + a_r + a_r &= 1.2 \quad a_1 + a_1 + d + a_1 + 3d = 1.2 \quad 3a_1 + 3d = 1.2 \\
 a_r + a_r &= r1 \quad a_1 + 3d + a_1 + 3d = 3a_1 + 6d = r1 \\
 -1.2d &= -r1 \rightarrow \boxed{d = r1}
 \end{aligned}$$

$$\begin{aligned}
 a_1 + d &= 2 \rightarrow a_1 = 2 \quad d = 2 - r1 = r1 \quad a_n = a_1 + (n-1)d \\
 a_1 &= r1 + 4 \times r1 = r1
 \end{aligned}$$

$$\begin{aligned}
 S_9 &= 9 S_{10} \quad \frac{9}{r} (3a_1 + 11d) = \frac{9}{r} (3a_1 + 3d) \\
 9(a_1 + 3d) &= 3V(a_1 + d) \quad 9a_1 + 33d = 3Va_1 + 3Vd \\
 9d &= 11a_1 \rightarrow d = \frac{11}{9}a_1
 \end{aligned}$$

$$\frac{a_r}{a_1} = \frac{a_1 + 19(11a_1)}{a_1 + 4(11a_1)} = \frac{a_1 + 209a_1}{a_1 + 44a_1} = \frac{210a_1}{45a_1} = r$$

$$\begin{aligned}
 a_1 &= 11 \\
 a_n &= r1 \quad \rightarrow a_1 + 9d = r1 \rightarrow 11 + 9d = r1 \rightarrow d = r \rightarrow a_n = rn + V
 \end{aligned}$$

$$\begin{aligned}
 a_r &= F(r) + V = r1 = b_r \quad b_r = r1 \\
 b_1 &= r1
 \end{aligned}$$

$$b_1 + 3d = r1$$

$$b_1 = r1$$

$$d = 2$$

$$-2 = \frac{11 - r1}{n+1}$$

$$an - d = -r1$$

$$an = r$$

$$n = r$$