

$$a_1 = 4, \quad d = \frac{a_1 - 4}{3} = 0$$

$$a_1 + 3d = 41$$

$$+n = 7n + 33 \Rightarrow 2.8 = 7n + 33 \Rightarrow 17.8 = 7n \Rightarrow \boxed{n = 2.5}$$

و قباله اعدادی که به ۷ باقی مانده ۳ دارند $\longrightarrow 10, 17, 24, 31, \dots$

$$1.1 \rightarrow 1 \text{ اولین عدد صحیح}$$

$$\frac{997 - 1.1}{7} + 1 = \boxed{141}$$

$$997 = \text{آخرین عدد صحیح}$$

$$n=0 \rightarrow a_1 + a_2 + a_3 \neq 14$$

$$n=1 \rightarrow a_2 + a_3 + a_4 = 9 \Rightarrow a_1 - a_4 = 9 \Rightarrow a_1 - a_1 - 3d = 9 \Rightarrow \boxed{d = -3}$$

$$a_1 + a_2 + a_3 = 3a_1 + 3d = 14 \Rightarrow 3a_1 = 14 \Rightarrow \boxed{a_1 = 4}$$

$$a_4 = a_1 + 3d = -5$$

$$a_{17} = 9 - 3 \cdot 3 = \boxed{-12} \quad a_{17} + a_{18} = -12 - 1 = \boxed{-13}$$

$$a + 2d = 2^n - 1, \quad a + 7d = 2^{n+1} \quad \delta d = 2^{n+1} - (2^n - 1) = 2^n + 1 \Rightarrow d = \frac{2^n + 1}{\delta}$$

$$a = 2^n - 1 - 2d = \frac{2 \times 2^n - 2}{\delta} \quad a + 7d = 2^{n+1} - 3 \quad \frac{2 \times 2^n - 2}{\delta} + 7 \times \frac{2^n + 1}{\delta} = 2^{n+1} - 3$$

$$2 \times 2^n + 1 = 2^{n+1} - 3 \Rightarrow 2 \times 2^n - 2 = 2^{n+1} - 4 \Rightarrow 2(2^n - 1) = 2(2^n - 2) \Rightarrow 2^n - 1 = 2^n - 2 \Rightarrow 1 = 0 \Rightarrow (2^n - 1)(2^n - 2) = 0$$

$$(2^n - 1) + 2^{n+1} + (2^n - 3) = 2 + 1 + 12 = \boxed{15}$$

$$a_1 + 9d = a_1 - 11d = 8 \Rightarrow 20d = 8 \Rightarrow d = -\frac{2}{5} \quad \left. \begin{array}{l} a_1 - 8 = 20 \Rightarrow 2a_1 = 28 \Rightarrow a_1 = 14 \end{array} \right\}$$

$$a_1 + 9d + a_1 + 11d = 28 \Rightarrow 2a_1 + 20d = 28$$

$$a_{11} = a_1 + 10d \Rightarrow 14 - 4 = \boxed{10}$$

18a, p. d

$$a_1 = \frac{r}{10} a$$

$$q/n = a_1 \Rightarrow \boxed{n = \frac{r}{q}}$$

$$g_{12} = a_1 + 18 \Rightarrow r'd = 18 \Rightarrow d = 8$$

$$a_1 + x^2 d$$

$$a_d = a_1 + f d$$

$$a_q = a_1 + \lambda d$$

$$q_1^r + 4ad + 9a^2d^2 - q_1^r - 4ad - 9a^2d^2 = 16ad + 16a^2d^2 = 16d(a + 4d)$$

$$a_v = a_1 + yd$$

$$\boxed{\wedge d} = \boxed{\text{f.}} \checkmark$$

$$\frac{r_0}{r_0 - r} = K \Rightarrow r_0 = Kn - 4 \Rightarrow$$

$$\frac{32}{21} \quad \frac{11}{7}$$

$$\psi_4 = \psi_n \Rightarrow \boxed{n = 4}$$

9

$$a_1 = 2.12\sqrt{r}$$

$\wedge$

$$a_{1/2} = 1 + \sqrt{3} = a_1 + 1/2d \rightarrow 1 - 1/2\sqrt{3} + 1/2d = 1 + \sqrt{3} \Rightarrow$$

$$14d = 15\sqrt{4} - 2 \Rightarrow d = \frac{15\sqrt{4} - 2}{14}$$

$$a_n + a_{n+1}^2 = a_1 + 14d + a_1 + 14d \quad a_n + a_{n+1}^2 = 2a_1 + 14d \Rightarrow$$

$$\gamma(a_1 + d) = \gamma a_1 + \gamma d \Rightarrow a_n = \gamma d = a_1 + \gamma d \Rightarrow a_n = a_1 + \gamma d \Rightarrow a_n = a_1$$

$$\Rightarrow n=1 \quad a_1 = \gamma a_0 \Rightarrow a_1 + v_1 d = \gamma a_0 + \gamma d \Rightarrow \gamma a_0 = -\gamma d \Rightarrow a = -d$$

$$a_n = a_1 + (n-1)d = -d + nd - d = 0 \Rightarrow -d + nd = 0 \Rightarrow \boxed{n=1}$$