

$$\frac{\xi_0}{\quad}, \frac{\quad}{\quad}, \frac{\quad}{\quad}, \frac{\eta_1}{\quad} \rightarrow \psi \eta = \eta_1 \rightarrow \boxed{n = \sqrt{\quad}}$$

101, 1011, ———, 99V $\rightarrow t_n = V_n + 99$

۲ سوال

$$\therefore a_{n+1} = -4n + 12 \xrightarrow{n=1} a_1 = -4 + 12 \rightarrow a_1 = 8$$

۳ سوال

$$w_{an+p} = -4n + 12 \xrightarrow{n=12} w_{a_{12}} = -4 \times 12 + 12 \rightarrow a_{12} = -36$$

$$\gamma_{-1}^{x_{\text{max}}}, \gamma_{(1)}^{x+1}, \gamma_{(13)}^{x_{\text{max}}} - \gamma_{(13)}$$

$$\forall a_1 = a_{1\mu} + a_{\mu}$$

$$Y_x(p^{x+1}) = p^{yx} - p^x + Y^{x-1}$$

$$r^{x+p} - r^p x - r^x = r^x$$

$$a_{\mu} + a_1 + a_{1\mu} = 1 + 1 + 1 = 3$$

$$\nu^x \left(\cancel{\nu} \frac{\nu^x}{\nu} - 1 \right) = -\varepsilon \rightarrow \nu^x (\nu - \nu^x) = -\varepsilon$$

$$\rightarrow \boxed{x = \nu}$$

۴ سوال

$$a_{11} + a_{10} = 25$$

$$a_{14} - a_{10} = 0$$

$$\begin{aligned} a_{12} &\rightarrow a_1 + 11d = 10 \\ a_{10} &\rightarrow a_1 + 9d = 10 \end{aligned}$$

② ✓

$$r_d = \omega \rightarrow \underline{d = r_1 \omega} \rightarrow \underline{q_1 = -r_1 \omega}$$

$$\gamma a_{1\gamma} = \gamma_0 \rightarrow a_{1\gamma} = 10 \rightarrow a_{10} = 10$$

$$a_{\gamma_1} \rightarrow a_1 + \gamma_0 d \rightarrow -1\gamma_1 \omega + (\gamma_0 \times \gamma_1, \Delta) = \overline{\psi \gamma_1 \omega}$$

۵ سوال

$$a_1 + a_2 + a_3 + a_4 + a_5 = (a_4 + a_5 + a_1 + a_2 + a_3) \times \frac{1}{3}$$

$$a_1 + (a_1+d) + (a_1+2d) + \dots + (a_1+(r-1)d) = \frac{r}{2} [2a_1 + (r-1)d]$$
$$\phi(a_1+rd) = \phi(a_1+vd) \times \frac{1}{r} \Rightarrow ra_1 = d.$$

$$\frac{a_1}{a_1} \rightarrow \frac{a_1 + \cancel{a_1}}{a_1} \rightarrow \frac{\cancel{a_1}}{\cancel{a_1}} = \boxed{1} \quad \textcircled{e} \quad \checkmark$$

۶ سوال

$$t_n = t_{n-3} + 15$$

سوال ٧

$$\hookrightarrow t_1 + (n-1)d = t_1 + (n-3)d + 15 \rightarrow 2d = 15 \rightarrow \boxed{d = 7.5}$$

$$t_5 = t_1 + 4d = t_1 + 30$$

$$t_6 = t_1 + 5d = t_1 + 37.5$$

$$t_9 = t_1 + 8d = t_1 + 60$$

$$\frac{t_9 - t_5}{t_6} = \frac{30}{37.5} = \boxed{\frac{4}{5}} = \boxed{f_0}$$

$$\left| \begin{array}{l} t_9 - t_5 = (t_9 - t_5)(t_9 + t_5) \rightarrow \\ [(t_1 + 80) - (t_1 + 30)][(t_1 + 80) + (t_1 + 30)] \end{array} \right.$$

$$2 \times (2t_1 + 110) \rightarrow f_0(t_1 + 30)$$

$$\frac{(2 + \sqrt{3}) - 2(1 + 4\sqrt{3})}{12+1} = \frac{13\sqrt{3}}{13} = \boxed{\sqrt{3}}$$

سوال ١٢

$$d = \frac{32 - 2}{4n - 3 + 1} \rightarrow \frac{30}{2(2n-1)} = \frac{15}{2n-1} \rightarrow \boxed{n=3}$$

$$\left\{ \begin{array}{l} a_{n+1} = 2 + nd = 11 \\ \rightarrow n \times \frac{15}{2n-1} = 9 \end{array} \right.$$

سوال ٩

$$2, 5, 11, 18, 26, 35, 45, 56, 68, 81, 95, 110, 126, 143, 161, 180, 200, 221, 243, 266, 290, 315, 341, 368, 396, 425, 455, 485, 516, 548, 581, 615, 650, 686, 723, 761, 800, 840, 881, 923, 966, 1010, 1055, 1101, 1148, 1196, 1245, 1295, 1346, 1398, 1451, 1505, 1560, 1616, 1673, 1731, 1790, 1850, 1911, 1973, 2036, 2100, 2165, 2231, 2298, 2366, 2435, 2505, 2576, 2648, 2721, 2795, 2870, 2946, 3023, 3101, 3180, 3260, 3341, 3423, 3506, 3590, 3675, 3761, 3848, 3936, 4025, 4115, 4206, 4298, 4391, 4485, 4580, 4676, 4773, 4871, 4970, 5070, 5171, 5273, 5376, 5480, 5585, 5691, 5798, 5906, 6015, 6125, 6236, 6348, 6461, 6575, 6690, 6806, 6923, 7041, 7160, 7280, 7401, 7523, 7646, 7770, 7895, 8021, 8148, 8276, 8405, 8535, 8666, 8798, 8931, 9065, 9200, 9336, 9473, 9611, 9750, 9890, 10031, 10173, 10316, 10460, 10605, 10751, 10898, 11046, 11195, 11345, 11496, 11648, 11801, 11955, 12110, 12266, 12423, 12581, 12740, 12900, 13061, 13223, 13386, 13550, 13715, 13881, 14048, 14216, 14385, 14555, 14726, 14898, 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371570, 372490, 373411, 374333, 375256, 376180, 377105, 378031, 378958, 379886, 380815, 381745, 382676, 383608, 384541, 385475, 386410, 387346, 388283, 389221, 390160, 391100, 392041, 392983, 393926, 394870, 395815, 396761, 397708, 398656, 399605, 400555, 401506, 402458, 403411, 404365, 405320, 406276, 407233, 408191, 409150, 410110, 411071, 412033, 413000, 413968, 414937, 415907, 416878, 417850, 418823, 419797, 420772, 421748, 422725, 423703, 424682, 425662, 426643, 427625, 428608, 429591, 430576, 431561, 432548, 433535, 434523, 435512, 436502, 437493, 438485, 439478, 440472, 441467, 442463, 443460, 444458, 445457, 446457, 447458, 448459, 449461, 450464, 451468, 452473, 453478, 454484, 455490, 456497, 457504, 458512, 459520, 460529, 461538, 462548, 463558, 464568, 465579, 466590, 467601, 468612, 469624, 470636, 471648, 472660, 473673, 474686, 475699, 476713, 477727, 478741, 479756, 480771, 481786, 482801, 483817, 484833, 485849, 486865, 487881, 488898, 489915, 490932, 491950, 492967, 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997977, 998997, 999017, 1000037$$

$$a_n = \frac{3a_1}{2}$$

$$a_2 = 3a_1$$

$$a_3 = 3a_2$$

$$a_1 = 3a_2$$

$$a_n + a_{n+2} = a + (n-1)d + a + (n+1)d = 2a + (2n)d$$