

کروه دهم /

سری ۱۳

نام و نام خانوادگی: تانیا ترک ترابی

۲۰ آذین ضعیف نام نوشتن

$$a_1 = 40$$

$$a_4 = 91 \quad a_1 + 3d = 91 \Rightarrow 40 + 3d = 91 \Rightarrow 3d = 51 \Rightarrow d = 17$$

$$a_n = 208$$

$$a_1 + (n-1)d = 208 \Rightarrow 40 + 17n - 17 = 208 \Rightarrow 17n = 185 \Rightarrow n = 11$$

حاصل می آید

$$101, 108, 115, \dots, 997$$

$$a_n = 7n + 3 \quad 1 \leq n \leq 100$$

$$\frac{997 - 101}{7} + 1 = 129$$

۱۲۹ تا عدد

$$a_{n+1} + a_n + a_{n-1} = -4n + 12 \Rightarrow (a_1 + nd) + (a_1 + (n+1)d) + (a_1 + (n+2)d) \Rightarrow$$

$$3a_1 + (3n+3)d \Rightarrow 3(a_1 + (n+1)d) = -4n + 12 \Rightarrow a_1 + (n+1)d = -\frac{4}{3}n + 4$$

$$a_n = a_1 + (n-1)d \Rightarrow a_1 + (n+1)d = -\frac{4}{3}n + 4 \Rightarrow d = -\frac{4}{3} \Rightarrow a_1 + d = 4 \Rightarrow a_1 = \frac{16}{3}$$

$$a_{14} = 9 + (14-1)(-\frac{4}{3}) \Rightarrow 9 - \frac{52}{3} = -\frac{29}{3}$$

$$a_1 = 9 - \frac{4}{3}(1) = 9 - \frac{4}{3} = \frac{23}{3}$$

$$a_{14} + a_1 = -\frac{29}{3} + \frac{23}{3} = -\frac{6}{3} = -2$$

$$a_r = 2^r - 1$$

$$a_n = 2^{n+1} = 2 \times 2^n$$

$$a_{13} = 2^{13} - 1$$

$$a_n - a_r = a_n - a_r$$

$$(2 \times 2^n) - (2^r - 1) = (2^{n+1} - 1) - (2^r - 1) \Rightarrow 2 \times 2^n - 2^r + 1 = 2^{n+1} - 2^r + 1 \Rightarrow 2^n = 2^r \Rightarrow n = r$$

$$2^n = 2^r \Rightarrow n = r \Rightarrow 2^n = 2^r \Rightarrow n = r$$

$$\Rightarrow t_1 = 4, t_r = -1 \Rightarrow t = 2^n \Rightarrow t = 4 \Rightarrow 2^n = 4 \Rightarrow n = 2$$

$$a_2 = 2^2 - 1 = 3, a_1 = 2^{1+1} - 1 = 3, a_{13} = 2^{13} - 1 = 8191, a_2 + a_1 + a_{13} = 3 + 3 + 8191 = 8197$$

$$a_{10} - a_{12} = 5 \quad (a_1 + 9d) - (a_1 + 11d) = 5 \Rightarrow 2d = 5 \Rightarrow d = \frac{5}{2}$$

$$a_{10} + a_{12} = 25 \quad (a_1 + 9d) + (a_1 + 11d) = 25 \Rightarrow 2a_1 + 20d = 25 \Rightarrow 2a_1 + 50 = 25 \Rightarrow 2a_1 = -25 \Rightarrow a_1 = -\frac{25}{2}$$

$$a_{21} = a_1 + 20d \Rightarrow -\frac{25}{2} + 20(\frac{5}{2}) = 47\frac{1}{2}$$

$$S_1 = a_1 + a_r + a_v + a_f + a_d$$

$$S_1 = \frac{1}{r} S_r$$

$$S_1 = \frac{d}{r} (ra_1 + rd) = d(a_1 + rd) \quad \{a_r = a_1 + rd\}$$

$$S_r = a_r + a_v + a_h + a_d + a_0$$

$$S_r = \frac{d}{r} (ra_r + rd) = d(a_r + rd) \Rightarrow$$

$$d[(a_1 + rd) + rd] = d(a_1 + rd)$$

$$S_1 = \frac{1}{r} S_r \Rightarrow d(a_1 + rd) = \frac{1}{r} \times d(a_1 + rd) \Rightarrow a_1 + rd = \frac{1}{r} (a_1 + rd) \Rightarrow$$

$$r(a_1 + rd) = a_1 + rd \Rightarrow ra_1 + r^2d = a_1 + rd \Rightarrow ra_1 = d$$

$$ra_r = a_1 + d \Rightarrow a_1 + ra_1 = ra_1$$

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$$t_n = t_{n-r} + 1d \Rightarrow t_n - t_{n-r} = 1d \Rightarrow r^2d = 1d \Rightarrow d = d$$

$$a^r - b^r = (a-b)(a+b) \Rightarrow t_n^r - t_a^r = (t_n - t_a)(t_n + t_a) \Rightarrow r \times r^2t_v \Rightarrow r \cdot t_v$$

$$(a-d)d = rd \Rightarrow r \times d = r$$

$$\frac{t_n^r - t_a^r}{t_v} = \frac{r \cdot t_v}{t_v} = r$$

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$$d = \frac{b-a}{n+1} \Rightarrow d = \frac{(r+\sqrt{r}) - (r-12\sqrt{r})}{1r} \Rightarrow \frac{r+\sqrt{r} - r + 12\sqrt{r}}{1r} \Rightarrow \frac{13\sqrt{r}}{1r} \Rightarrow$$

$$d = \sqrt{r}$$

$$d = \frac{b-a}{n+1} \Rightarrow \frac{rr - r}{(fn-r)+1} \Rightarrow \frac{r_0}{r_{n-r}} \Rightarrow \frac{1d}{r_{n-1}}$$

$$A_n = a_{n+1} = a_1 + ((n+1)-1)d = a_1 + nd \quad 11 = r + nd \Rightarrow nd = 9 \Rightarrow d = \frac{9}{n}$$

$$\frac{9}{n} = \frac{1d}{r_{n-1}} \Rightarrow 11n - 9 = 1dn \Rightarrow rn = 9 \Rightarrow n = r$$

$$a_n + a_{n+r} = a_r + a_{1v}$$

$$(a_1 + (n-1)d) + (a_1 + (n+r)d) = (a_1 + rd) + (a_1 + 19d) \Rightarrow 2a_1 + (r_n + r)d =$$

$$2a_1 + 18d \Rightarrow (r_n + r)d = 18d \quad r_n + r = 18 \Rightarrow r_n = 14 \Rightarrow n = 1$$

$$a_1 + vd = r(a_1 + rd) \Rightarrow a_1 + vd = ra_1 + rd \Rightarrow vd - rd = ra_1 - a_1 \Rightarrow a_1 = -d$$

$$a_k = a_1 + (k-1)d = 0 \Rightarrow d(-1 + k - 1) = 0 \Rightarrow k - 2 = 0 \Rightarrow k = 2$$

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