

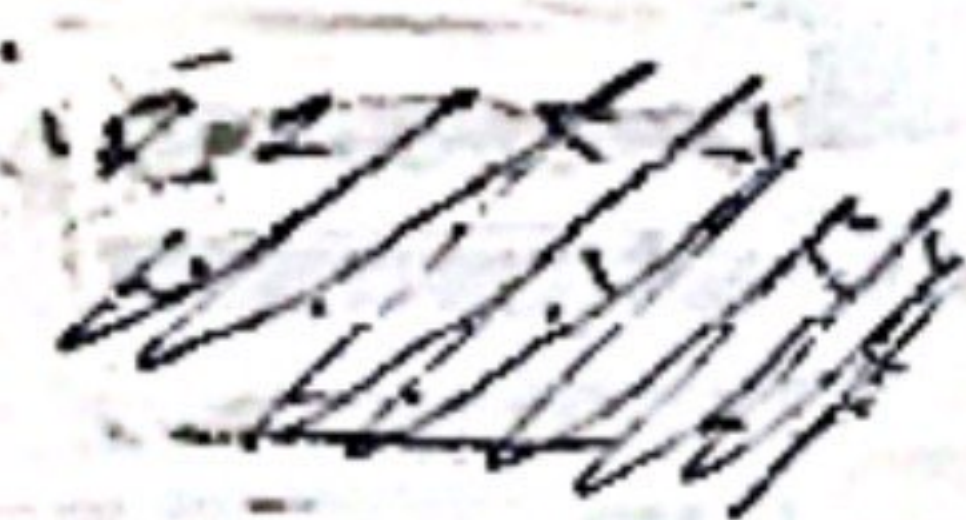
$$ra + ra + rd + ra + rd + ra + rd + ra + rd = a + ad + a + rd + a + rd + a + rd + a + rd$$

$$10a + 4d = 4a + 4d$$

$$ra + rd = a + rd$$

$$ra = d$$

$$\frac{ra}{a} = r$$



$$t_n - t_{n-r} = rd = 1d$$

$$d = a \quad a + (ra + rd) \quad a + (ra + rd)$$

$$\frac{(a + rd)(a + rd) - (a + rd)(a + rd)}{a + rd} = \frac{rd + rd}{a + rd} = \frac{rd + rd}{a + rd} = r$$

$$d = \frac{r + \sqrt{r} - r + 1\sqrt{r}}{r + 1} = \frac{1\sqrt{r}}{1} = \sqrt{r}$$

$$d = \frac{r - r}{4r - r} = \frac{r}{3r - r}$$

$$d = \frac{11 - r}{n + 1 - 1} = \frac{9}{n}$$

$$\frac{r}{3r - r} = \frac{9}{n} \quad r = n = r \quad n = 11$$

$$a_n + a_{n+r} = ar + a_{1r}$$

$$n + n + r = r + 1r$$

$$r = 1r$$

$$n = 1$$

$$a_1 + a_{1r} = ar + a_{1r}$$

$$\frac{a + rd}{a + rd} = r \quad a + rd = ra + rd$$

$$a = -d$$

$$a + d = 0 \rightarrow -d + d = 0$$

19/5/20

$$\begin{aligned} a_1 &= 40 & 40 + 7n - 7 &= 201 \\ a_4 &= 41 & n &= 25 \\ 2d &= 21 \\ d &= 7 \end{aligned}$$

اولین عدد که بر ۷
باقی مانده ۳ دارد = 101

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

آخرین عدد که بر ۷
باقی مانده ۳ دارد = 997

$$a_1 + a_9 + a_{10} = -20$$

$$a_{13} + a_{19} + a_{17} = -72$$

$$2(a_1 + a_{17}) = -102$$

$$a_1 + a_{17} = -51$$

$$(2 \times 2^x) = 2^{2x} - 2 + 2^x = 1$$

$$2^x \times 2 + 2^x \times 2^x = 2^x \times 2^x$$

$$2^{2x} - 2 + 2^x = 2 \times 2^{x+1}$$

$$2^{2x} - 2 + 2^x = 2^{x+2}$$

$$(2^x)^2 - 2(2^x) - 4 = 0 \Rightarrow (2^x - 4)(2^x + 2) = 0$$

$$2^x = 4 \quad x = 2$$

$$a_2 = 2$$

$$a_1 = 1$$

$$a_{17} = 17$$

$$a_1 + a_{17} = 18$$

جوابی ۸ و ۱۳ است

$$a_{10} - a_{17} = 7d$$

$$a + 9d - (a + 11d) = -2d = 7d$$

$$a + 9d + a + 11d = 2a + 20d = 20$$

$$2a + 20d = 20$$

$$a + 9d = 10$$

$$9d = 10 - a$$

$$a = 10 - 9d$$

$$a_{21} = 10 - 9d + 20d = 10 + 11d$$

$$a_{17} - a_{10} = 7d$$

$$a + 11d - (a + 9d) = 2d = 7d$$

$$a + 11d + a + 9d = 2a + 20d = 20$$

$$a + 11d = 10$$

$$a_{17} = 10$$

$$a_{10} = 10$$

$$a_{21} = 10 + 11(2) = 32$$