

زهر ادیانی

r_{n+1}

$$1 \leq r_{n+1} \leq 999$$

$$99 \leq r_n \leq 999$$

$$1 \leq r \leq 199$$

$$\downarrow$$

$$\{r_n\}$$

$$a_{n+1} = a_{n+9} + a_{n+10} = -9n + 15$$

$$\begin{array}{ccc} a_{n+1} & a_{n+9} & a_{n+10} \\ \downarrow & \downarrow & \downarrow \\ a_1 + 10d & a_1 + 9d & a_1 + 10d \end{array} + 4d$$

$$a_1 + 10d + 9d + 10d \rightarrow 15 - 9n - 5 = -9n + 15$$

$$\begin{array}{c} 15 \\ \downarrow \\ 10d \\ \downarrow \\ -5 \end{array}$$

$$a_1 = 15$$

$$d = -5$$

$$\frac{15}{-5} + 10d = \frac{15}{-5} - 15 =$$

$$\frac{15}{-5} + 10d = \frac{15}{-5} - 15 =$$

$$a + 10d - a - 9d = 10d - 9d = d = 0 \quad d = \frac{0}{1}$$

$$a + 10d + a + 9d = 2a + 19d = 15$$

$$2a + 19d = 15$$

$$2a + 19d = 15$$

$$19d = -15$$

$$d = -\frac{15}{19}$$

$$\frac{15}{2} + 19d = \frac{15}{2}$$

$$2a + 19d = \frac{1}{2} (2a + 19d)$$

$$19d = 19d$$

$$19d = 19d$$

$$19d = 19d$$

$$\frac{a+10d}{a} = \frac{a+9d}{a} = 1$$

$$\frac{15 + 19d}{19} = \frac{15}{19}$$