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$$x, \text{آخرین دسته} = (شماره\ دسته)^2$$

$$عدد\ آخر\ دسته\ هشتم = 49$$

$$دسته\ پنجم = 45, 46, \dots, 81 \rightarrow \text{میانگین} = \frac{45+81}{2} = \boxed{63}$$

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$$\{1, 2, 3\}, \{4, 5, 6, 7, 8, 9\}, \{10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20\}, \{21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100\}$$

$$میانگین = \frac{343+121}{2} = \boxed{232}$$

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$$n = 3k \rightarrow 0, 3, 6, 9, 12, \dots \rightarrow a_0 = 1, a_3 = 2, a_6 = 4, a_9 = 8, \dots$$

$$n = 3k+1 \rightarrow 1, 4, 7, 10, \dots \rightarrow a_1 = 4, a_4 = 2, a_7 = 5, \dots \Rightarrow a_0 + a_1 + \dots + a_9 = 19 = 25 + 3a$$

$$n = 3k+2 \rightarrow 2, 5, 8, 11, \dots \rightarrow a_2 = 1+a, a_5 = 1+a, a_8 = 2+a \Rightarrow a = -2$$

$$\text{مجموع} \Rightarrow 1 \cdot a + (1+1+2+2+2+2+2+2+2+2) = -2 + 18 = \boxed{-2}$$

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$$a = \frac{1}{v} \cdot x(-14) = \frac{-14}{v} \rightarrow an = \frac{-nr}{a} + bn + c \rightarrow a2 = -a + 2b + c + 12 \rightarrow 2b + c + 19$$

$$av = \frac{-19}{a} + vb + c = 17, 2 \rightarrow \frac{vb + c}{a} = 27$$

$$\rightarrow a_{12} = \frac{-12r}{a} + (12 \times 4) - 1 = 14$$

$$a_1 = \frac{-1r}{a} + (1 \times 4) - 1 = 2/18 \rightarrow \frac{a_{12}}{a_1} = \boxed{5}$$

$b = 4, c = -1$

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$$a_1 = br, a_n = bv \rightarrow a_n - a_1 = bv - br \rightarrow 4d = 2d' \rightarrow \frac{d'}{d} = 2$$

$$b_1 = 0 \rightarrow b + 9d' = 0 \rightarrow b = -9d'$$

$$\rightarrow \frac{b_{12}}{d} = \frac{b + 11d'}{d} = \frac{-9d' + 11d'}{d} = \frac{2d'}{d} = \boxed{4}$$

$$\begin{aligned} 9(a+d)^2 &= 9a(a+d) + 9d(a+d) \rightarrow 9a^2 + 9ad + 9ad + 9d^2 = 9a^2 + 18ad + 9d^2 \\ &\rightarrow 9a^2 + 9ad - 9d^2 = \xrightarrow{\div 9} a^2 + ad - d^2 = (a-d)(a+d) \rightarrow a = \frac{r}{r}d \\ &\rightarrow a = d \end{aligned}$$

$$\frac{a}{d} = \frac{a+d}{d} \rightarrow \frac{r}{r}d + d = \frac{9}{9} \boxed{12}$$

$$\frac{-d+d}{d} = \boxed{1}$$

$$\begin{aligned} \sigma_{\text{iso}} &\rightarrow a, a+d, a+rd \\ \sigma_{\text{iso}} &\rightarrow a+d, \frac{a}{r}, \frac{a+rd}{2} \rightarrow \frac{a^r}{2}, \frac{(a+d)(a+rd)}{2} \\ \rightarrow a^r &= a^r + rd^r + rad \rightarrow rd^r + rad = \cdot \rightarrow d(rd + ra) = \cdot \rightarrow d \neq 0 \text{ is, is in } \mathbb{Z} \\ \rightarrow rd + ra &= \cdot \rightarrow a = -\frac{r}{r}d \\ \rightarrow -\frac{r}{r}d + d, \frac{rd}{r}, \frac{-\frac{r}{r}d + rd}{2} &\rightarrow \frac{d}{r}, \frac{d}{r}, \frac{d}{r} \rightarrow g = -1 \rightarrow r \cdot g = \boxed{-r} \end{aligned}$$

$$\begin{aligned} r a &= \frac{r b + c}{r} \rightarrow r a = r b + c \rightarrow r a = r b q + b q^r \rightarrow r = r q + q^r \rightarrow q^r + r q - r = 0 \\ \rightarrow (q + r)(q - 1) &= 0 \rightarrow q \neq 0 \text{ من أجل أن } q \text{ ليس } 0 \\ \rightarrow q + r &= 0 \rightarrow q = -r \\ -\frac{a q}{a r} &= \frac{a q^r}{a q^r} = q^r = (-r)^r = \boxed{-r^r} \end{aligned}$$

$$\frac{a q_h^2}{a q_h^r} + \frac{a q}{a r} \Rightarrow \frac{q^r}{a^r} + \frac{q}{a} \Rightarrow r \Rightarrow \frac{q}{a} \Rightarrow T \rightarrow r^r + T - r \Rightarrow (T+r)(T-1) = 0$$

$$\frac{a^r}{a^r} = \frac{a^r}{a^r} \Rightarrow \frac{a}{q} \Rightarrow \frac{1}{T} \rightarrow \boxed{1}$$

$$\frac{a^r}{a^r} = \frac{a^r}{a^r} \Rightarrow \frac{a}{q} \Rightarrow \frac{1}{T} \rightarrow \boxed{\frac{-1}{T}}$$

$$a q^r = \sqrt{a q^r} \rightarrow a^2 q^r = a q^r \rightarrow a q = 1$$

$$a q^r = r_1 = 1 \times q^r = r v \rightarrow q^r = r v \rightarrow q = v$$

$$a = \frac{a_2}{q^r} = \frac{r v}{\cancel{r}^1} = \frac{1}{v} \rightarrow \frac{1}{r} - a = \frac{1}{r} - \frac{1}{v} = \boxed{\frac{1}{\epsilon}}$$