

18/5/20

دلیل و فرض خواه

$$\alpha(1+q+q^2) = 21$$

$$a^* q^2 = 4K \rightarrow aq = K \quad a = \frac{K}{q}$$

$$\frac{K}{q}(1+q+q^2) = 21 \quad K + Kq + Kq^2 = 21q \rightarrow Kq^2 - 14q + K = 0$$

$$\Delta = 14^2 - 4(K)(K) = 14^2 - 16K$$

$$q = K$$

$$q = \frac{1}{K} \rightarrow \text{چون گفته غیر صاف است}$$

$$Kq^2 = (m^2 K)(n^2 - 1)$$

$$Kq^2 = m^2 K + n^2 K - 1$$

$$m^2 - 2n^2 - 1 = 0 \quad \Delta = 2 + 4 \quad m = 3 \rightarrow m^2 = 9 \Rightarrow m = \pm 3$$

$$m = 3 \quad n^2 = 4 \quad n = 2 \quad Kq^2 = 9 + 4 - 1 = 12 \quad q = \frac{1}{K}$$

$$m = -3 \quad n^2 = 4 \quad n = 2 \quad Kq^2 = 9 + 4 - 1 = 12 \quad q = \frac{1}{K}$$

$$1 \times (3^2 - 1) \times \frac{1}{12} = \frac{12 \times 1}{12} = 1$$

$$a = 2Kq$$

$$121 = 2Kq$$

$$S_2 = 121$$

$$\frac{1-r^2}{1-r} = \frac{4K}{2Kq} \rightarrow \frac{1-r^2}{1-r} = 1 + r + r^2 + r^3 + r^4$$

$$1 + r + r^2 + r^3 + r^4 = \frac{121}{4Kq} \Rightarrow r = \frac{1}{K}$$

$$Kq^2 = \frac{1}{K} = 1 \quad S = Kq^2 + 1 + Kq^2 + 9 + Kq^2 = 121$$

$$a_1 = 1 + 4K = 4K \quad a_1 = 1 \quad a_1 = 4K \quad \sqrt{a_1 a_1} = \sqrt{1 \times 4K} = \sqrt{4K} = 1$$

$$Kq^2 + 1 = Kq^2 + 1$$

$$a_1 = 4K \quad a_1 = 4K \quad d = a_1 - a_1 = \frac{4K}{K} - (-4K) = \frac{4K}{K} + \frac{4K}{K} = \frac{8K}{K} = 8$$

$$a_1 = a_1 + (n-1)d \rightarrow a_1 = -4K + (100) \left(\frac{8K}{K} \right) = 800K - 4K = 796K$$

$$a_1' = 121 \quad a_1' = a_1' \cdot r^2 = Kq^2 = 121r^2$$

$$a_1' = 4Kq^2 \quad r^2 = Kq^2 \quad r = \sqrt{\frac{4Kq^2}{121}} = \frac{2}{11}$$

$$a_1 - a_1' = a_1 + d - a_1' = d$$

$$-4K - (-4K) = \frac{1}{K} \rightarrow d = \frac{1}{K}$$

$$a_1 \cdot 1 = a_1 + 1 \cdot d \rightarrow a_1 \cdot 1 = -4K + \frac{1}{K} = 2K - 4K = -2K$$

$$a_1 = a_1 \cdot q^2 \rightarrow$$

$$1 = 121 \times q^2 \rightarrow q^2 = \frac{1}{121} \rightarrow q = \frac{1}{11}$$

$$\frac{a}{w} = m + v d \quad \frac{a}{v} = m + q d \quad \frac{a}{q} = m + 1 d \quad -9$$

$$(m + q d)^v = (m + v d)(m + 1 d) \Rightarrow d = -\frac{m}{1} = m = -1 \cdot d \quad (P)$$

$$\frac{a}{w} = -1 \cdot d + v d = -1 d \quad r = \frac{m v}{m w} = \frac{-1 d}{-1 d} = 1$$

$$\frac{a}{v} = -1 \cdot d + q d = -1 d$$

$$m + d = \frac{a}{v} \quad (m + w d)^p = (m + d)(m + v d) \Rightarrow -1 m d + v d = 0 \quad -V_5$$

$$m + w d = \frac{a}{r}$$

$$m + d = v m$$

$$d(d - m) = 0 \quad d \neq 0 \quad (P)$$

$$m + v d = m$$

$$m + w d = r m$$

$$m + v d = 1 m$$

$$r = \frac{r m}{r m} = v$$

$$m = \frac{1}{r}$$

$$q = \frac{1}{r} \times v = \frac{1}{r} \times \frac{1}{r} = \frac{1}{r^2} \quad \boxed{1 = m}$$

$$\frac{w a}{v}, \frac{v a}{w}, \frac{a}{q}$$

$$\frac{w a}{v} \cdot q^w = \frac{v a}{w} \cdot q^v = \frac{a}{q} \cdot q^p = \frac{r a}{q} \cdot q^p$$

$$v q^w - w q^v = q^w - r q^p \rightarrow q^w - r q^p + w q^v = 0$$

$$q(q-1)(q-w) = 0 \quad q \neq 0 \quad q \neq 1 \quad d = -1$$

$$\boxed{q = w}$$

$$\frac{a}{v} = v \quad d = \frac{v}{r} - v = \frac{1}{r} - v$$

$$\frac{a}{r} = v \quad a_n = v + (n-1) \left(-\frac{1}{r}\right) = v - \frac{n-1}{r}$$

$$\frac{a}{r} = v - \frac{w}{r} = 0$$

$$\frac{a}{r} = v - \frac{v}{r} = \frac{1}{r}$$

$$\frac{a}{w} = v - \frac{1}{r} = -1$$

$$\frac{a_1 + a_n}{1 + n} = \frac{a_1 + a_n}{m + n} \Rightarrow (a_1 + a_n)^v = (a_1 + a_n)(a_1 + a_n)$$

$$\left(\frac{1}{r} + a_n\right)^v = (-1 + a_n) \left(\frac{1}{r} + a_n\right)$$

$$a_n^v + \frac{1}{r} a_n + \frac{1}{r^v} = a_n^v + \frac{1}{r} a_n - \frac{1}{r} \Rightarrow \frac{1}{r} a_n = -\frac{1}{14} \Rightarrow a_n = -\frac{1}{r}$$

$$\frac{a_1 + a_n}{1 + n} = \frac{1}{r}$$

$$-1, -\frac{1}{r}, -\frac{1}{r^2}, \dots$$

$$a_1 + a_n = -\frac{1}{r}$$

$$\frac{a_1 + a_n}{r} = -\frac{1}{r}$$

$$\frac{r + \frac{1}{r}}{r^2} = \frac{1}{r} = \frac{1}{r^2} \quad \boxed{r = 1}$$

$$a r - a_1 = q \cdot a \rightarrow (1 \times r) - 1 = v$$

$$a(1 + r + r^2) = v^w$$

$$r = v \quad a(1 + 1 + r) = a + v^w = v^w \quad \boxed{a = 1}$$

$$d = \frac{v^w}{r} \left(\frac{1}{r}\right) = 0$$

$$d = a_p - a_q = a r^w - a = a(r^w - 1) \quad r = 1 \quad a(1 + 1 + 1) = 3a = v^w$$

$$a r^q = a + q a(r^w - 1) = a(1 + q(r^w - 1)) = a(4r^w - 1)$$

$$r^q = q r^w - 1$$

$$r^w = 1 \quad 4r^w = 1$$

$$r = v \quad r = 1$$