

$$a, aq, aq^2$$

$$a^2 q^2 = 4$$

$$aq = 4$$

$$a + aq + aq^2 = 21$$

$$a(1 + q + q^2) = 21$$

$$\frac{a}{q} + a + aq = 21$$

$$\frac{4}{q} + 4 + 4q = 21$$

$$4q^2 - 17q + 4 = 0 \rightarrow (q-1)(q-14) \rightarrow q < \frac{1}{4} \text{ or } q > 14$$

$$q = 4$$

q باید غیر صحیح باشد!

$$2x^2 + 4 \quad 2x \quad 2x^2 - 2$$

$$\frac{2x}{2x^2 + 4} = \frac{2x^2 - 2}{2x}$$

$$(2x^2 + 4)(2x^2 - 2) = 4x^2$$

$$2x^4 + 4x^2 - 4 = 4x^2$$

$$2x^4 - 4x^2 - 4 = 0$$

$$(2x^2 - 4)(x^2 + 1) = 0 \rightarrow x^2 < -1 \text{ or } x^2 = 1$$

$$x = \pm 1$$

$$q < \frac{1}{4} \text{ or } q > 14$$

$$\ln\left(\frac{1 - (q^{-1})^n}{1 - \frac{1}{q}}\right) = \ln\left(\frac{1 - q^{-n}}{1 - \frac{1}{q}}\right) = \frac{1 - q^{-n}}{1 - \frac{1}{q}}$$

$$a = 44$$

$$a(1 + q + q^2 + q^3 + q^4) = 44 \times \frac{121}{11} = 484$$

$$a + aq + aq^2 + aq^3 + aq^4$$

$$d = \frac{44 - 1}{4 + 1} = 10$$

$$A = a + d = 44 + 10 = 54$$

$$q^2 = \frac{44}{1} \Rightarrow q = \pm 1$$

$$aq^2 = 16 - 1$$

$$44 + 1 = 45$$

$$44 - 1 = 43$$

$$d_1 = \frac{1}{4} \quad a + 100\left(\frac{1}{4}\right) = -44 + 4a = 1$$

$$aq^4 = 1$$

$$\frac{aq^4}{a} = q^4 = \frac{1}{16} = \frac{1}{2^4} \rightarrow q = \frac{1}{2}$$

$$a+rd \quad a+rd \quad a+rd$$

$$a \in a - \frac{a}{10} \in a - \frac{9a}{10}$$

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$$\frac{a+rd}{a+rd} = \frac{a+rd}{a+rd}$$

$$(a+rd)^r = (a+rd)(a+rd)$$

$$a^r + r a d + r^2 d^2 - (a^r + r a d + r^2 d^2) = 0$$

$$r a d + r^2 d^2 = 0 \rightarrow r d (a + r d) = 0 \rightarrow r d = 0$$

$$d = 0$$

$$d = -\frac{a}{10}$$

✓

$$a+d \in a+rd \quad a+rd \quad a+rd$$

$$ra \quad ra \quad ra$$

$$\frac{a+rd}{a+d} = \frac{a+rd}{a+d}$$

$$q=r \quad a_1=ra$$

$$ra \times r^q = 10ra$$

$$r^q \times r^{-r} = r^v$$

✓

$$(a+d)(a+rd) = (a+rd)^r$$

$$a^r + r a d + r^2 d^2 = a^r + r a d + r^2 d^2$$

$$rad = rd^r$$

$$a = d$$

$$ra = a + d = \frac{1}{r}$$

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$$ra_r \quad ra_r \quad a_r$$

$$ra_q \quad ra_q^r \quad a_q^r$$

$$ra_q^r - ra_q = a_q^r - ra_q^r$$

$$ra_q^r - ra_q = a_q^r$$

$$q^r - r q + r = 0$$

$$(q-1)(q-r) = 0 \quad \begin{cases} q=r \\ q=1 \end{cases}$$

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$$a=r \quad a_r=r+\frac{r}{r}=\frac{a}{r}$$

$$d=-\frac{1}{r} \quad a_1=r+\frac{r}{r}=\frac{1}{r}$$

$$a_{1r}=r+\frac{1r}{r}=-1$$

$$\frac{\frac{1}{r}+rc}{\frac{a}{r}+rc} = \frac{-1+rc}{\frac{1}{r}+rc}$$

$$\frac{1}{1r} + \frac{1}{r}rc + rc^r = -\frac{a}{r} + \frac{1}{r}rc + rc^r$$

$$\frac{r}{1r} + \frac{1}{r}rc = 0$$

$$r = -\frac{r}{r} \rightarrow q = \frac{\frac{1}{r} + \frac{r}{r}}{-\frac{r}{r} + \frac{a}{r}} = \frac{\frac{r_0}{r}}{\frac{1r}{r}} = \frac{r_0}{1r} = \frac{a}{r} = 1, r$$

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$$a \quad aq^r \quad aq^r$$

$$a \quad a+d \quad a+rd$$

$$a+d+a+rd+a=vr$$

$$a(1+q^r+q^r)=vr$$

$$aq^r = a+d$$

$$a(d^r-1)=d$$

$$aq^r = a + qa q^r - qa = a(1+qa^r-q) = aq^r$$

$$q^r - qa q^r + 1 = 0$$

$$(q^r-1)(q^r-1) = 0 \rightarrow q^r < 1 \rightarrow q < 1 \rightarrow a(1+1+q^r) = vr$$

$$a=1$$

حالت دوم

(رابطه ششم)

$$\rightarrow q=1$$

$$d=0$$

$$d=1(1-1)=v$$

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