

$$4a^r = \Delta a_r a + r a_r a \longrightarrow q(a+d)^r = \Delta(a+rd)(a) + r(a+d)(a)$$

-4

$$\longrightarrow 4a^r + 4rad + 4d^r = 4a^r + 4rad \longrightarrow 4a^r + 4d - 4d^r = 0 \longrightarrow (4a - 4d)(a + rd) = 0$$

$$\begin{cases} 4a = 4d \longrightarrow a = \frac{r}{r} d \rightsquigarrow \frac{a+rd}{d} = \frac{\frac{r}{r}d + rd}{d} = \boxed{\frac{q}{r}} \\ a = -rd \rightsquigarrow \frac{a+rd}{d} = \frac{-d}{d} = \boxed{-1} \end{cases}$$

$$a, b, c \xrightarrow{\text{عبدالوهاب}} 0, a+d, a+rd$$

-V

$$(سندس): a+d, \frac{a}{r}, \frac{a+rd}{\varepsilon} \xrightarrow{\text{سندس}} \left(\frac{a}{r}\right)^r = (a+d)\left(\frac{a+rd}{\varepsilon}\right)$$

$$\longrightarrow \frac{a^r}{\varepsilon} = \frac{a^r + rad + rd^r}{\varepsilon} \longrightarrow rad + rd^r = 0 \longrightarrow r0 = -rd \longrightarrow a = -\frac{r}{r}d$$

$$\text{مطلوبه} \rightarrow \frac{1}{r}d, -\frac{1}{r}d, \frac{1}{r}d \longrightarrow q = \boxed{-1} \rightsquigarrow r q = \boxed{-r}$$

$$a, b, c \xrightarrow{\text{سندس}} a, aq, aq^r$$

-1

$$\text{سندس}: raq, ra, aq^r \xrightarrow{\text{سندس}} \varepsilon a = raq + aq^r \longrightarrow \varepsilon = rq + q^r$$

$$\longrightarrow q^r = rq - \varepsilon = 0 \longrightarrow q = \frac{-r \pm \sqrt{r^2 + 4\varepsilon}}{2} \begin{cases} q = 1 \text{ ممتنع} \\ q = \boxed{-\varepsilon} \end{cases}$$

$$\frac{aq^r}{aq^0} = \frac{(-\varepsilon)^r}{(-\varepsilon)^0} = (-\varepsilon)^r = \boxed{-r\varepsilon}$$

$$\frac{aq^0}{a^r q^r} + \frac{aq}{a^r} = r \longrightarrow \frac{q^r}{a^r} + \frac{aq}{a^r} = r \longrightarrow \frac{q^r + aq}{a^r} = r \longrightarrow ra^r - aq - q^r = 0$$

-9

$$\longrightarrow (ra + q)(a - q) = 0 \begin{cases} q = a \rightsquigarrow \frac{a^r}{aq} = \frac{a^r}{a^r} = \boxed{1} \\ q = -ra \rightsquigarrow \frac{a^r}{aq} = \frac{a^r}{-ra^r} = \boxed{-\frac{1}{r}} \end{cases}$$

$$a_r = \pm \sqrt{a\varepsilon}$$

$$\longrightarrow a^r q^r - aq^r \longrightarrow aq^r(aq - 1) = 0$$

$$\begin{cases} aq^r = 0 \text{ X} \\ aq - 1 = 0 \longrightarrow aq = 1 \end{cases}$$

-10

$$a_0 = rV$$

$$\frac{aq^r}{aq} = \frac{rV}{1} \longrightarrow q^r = rV \longrightarrow q = \boxed{r} \rightsquigarrow ar(r)^r = rV \longrightarrow a = \boxed{\frac{1}{r}}$$

$$\frac{1}{r} - \frac{1}{r} = \boxed{\frac{1}{r}}$$