

$$q(a+d)^r = a(a+rd)a + r(a+d)a \Rightarrow qa^r + qd^r + 1rad = \omega a^r + 1oad + ra^r + rda \Rightarrow \quad -q$$

$$0 = ra^r - qd^r + ad \Rightarrow (ra - qd)(a+rd) = 0 \Rightarrow \begin{cases} 1 \rightarrow a = \frac{qd}{r} \\ r \rightarrow a = -rd \end{cases} \Rightarrow \frac{qr}{d} = \frac{a+rd}{d} \Rightarrow$$

$$\begin{cases} 1 \rightarrow \frac{\frac{qd}{r} + rd}{d} = \frac{q}{r} \\ r \rightarrow -\frac{rd + qd}{d} = 1 \end{cases}$$

$$a, b, c \xrightarrow{\text{L.H.S.}} b, \frac{a}{r}, \frac{c}{r} \Rightarrow a+d, \frac{a}{r}, \frac{a+rd}{r} \Rightarrow \frac{a}{r} \div a+d = \frac{\frac{a+rd}{r}}{\frac{a}{r}} \Rightarrow$$

$$\frac{a}{ra+rd} = \frac{ra+rd}{ra} \Rightarrow ra^r = ra^r + rd^r + r^2ad \Rightarrow r(rd^r) = r(-rad) \Rightarrow d(rd+ra) = 0$$

$$\Rightarrow \begin{array}{l} 1 \rightarrow d = \alpha \\ r \rightarrow rd + ra = 0 \Rightarrow a = -\frac{rd}{r} \end{array} \Rightarrow q = \frac{a}{a+d} = \frac{-\frac{rd}{r}}{-\frac{rd}{r} + d} = -1 \Rightarrow {}^p q = {}^p x - 1 = -r$$

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$$a, b, c \xrightarrow{\text{مساواة}} \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} b, \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} a, c \xrightarrow{\text{مساواة}} \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} aq, \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} a, aq^r \Rightarrow \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} aq^r - \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} a = \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} a - \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} aq = \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} aq^r - \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} a + \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} aq = 0$$

$$\Rightarrow \begin{matrix} 1 \\ 2 \\ 3 \end{matrix} a(q-1)(q+r) = 0$$

- 1 $\rightarrow a = 0 \times \text{مساواة}$
- 2 $\rightarrow q = 1 \times \text{مساواة}$
- 3 $\rightarrow q = -r$

$$\Rightarrow \frac{a_1}{a_4} = \frac{aq^1}{aq^3} = q^2 = (-r)^2 = -r^2$$

$$\frac{a^r}{(a^r)^r} + \frac{a^r}{(a)^r} = r \Rightarrow \frac{a q^r}{a^r q^r} + \frac{a q}{a^r} = r \Rightarrow \frac{q^r + a q}{a^r} = r \Rightarrow r a^r - q^r - a q = 0 \Rightarrow \quad 9$$

$$(r a + q)(a - q) = 0 \Rightarrow \begin{cases} 1 \rightarrow a = \frac{q}{r} \\ r \rightarrow a = q \end{cases} \quad \frac{a^r}{a^r} = \begin{cases} 1 \rightarrow \frac{a^r}{a q} = \frac{a^r}{a^r} = 1 \\ r \rightarrow \frac{a^r}{a q} = \frac{a^r}{-r a^r} = -\frac{1}{r} \end{cases}$$

$$\begin{aligned} a^r &= \sqrt{a^r} \Rightarrow (a q^r)^r = a q^r \Rightarrow a^r q^r = a q^r \Rightarrow a q = 1 \Rightarrow a_a = a q^r = r \vee = a q \times q^r = r^r \\ &\Rightarrow q = r \Rightarrow a(r)^r = r \vee \Rightarrow a = \frac{1}{r} \Rightarrow \frac{1}{r} - \frac{1}{r} = \frac{1}{r} \end{aligned} \quad -10$$