

$$\begin{aligned} \epsilon(a+d)^r &= \delta(a+\epsilon d)a + \epsilon(a+d)a \\ \epsilon a^r + \epsilon \epsilon d + \epsilon d^r &= \delta a^r + \epsilon \delta a d + \epsilon \epsilon a^r + \epsilon \epsilon d \\ -\epsilon a^r - \epsilon d + \epsilon d^r &= 0 \rightarrow a^r - \epsilon d + \epsilon d^r = 0 \\ \frac{a\epsilon}{d} &\rightarrow \frac{\epsilon d - \epsilon d}{d} + 1 = 1 \quad \checkmark \\ &\rightarrow \frac{\epsilon \delta a d + \epsilon d^r}{d} = \epsilon \delta \quad \checkmark \end{aligned}$$

$$(a - \epsilon d)(a + \epsilon d) = 0 \rightarrow \begin{cases} a = -\epsilon d \\ a = \epsilon d \end{cases}$$

$$\begin{aligned} \epsilon b &= a + c \\ b &= \frac{a+c}{\epsilon} \\ \frac{a^r}{\epsilon} &= \frac{bc}{\epsilon} \rightarrow a^r = bc \Rightarrow a^r = \frac{a+c}{\epsilon} \times c \\ &\Rightarrow \epsilon a^r - \epsilon ac - \epsilon c^r = 0 \\ &\rightarrow a^r - ac - \epsilon c^r = 0 \\ a_n &\rightarrow b, \frac{-c}{\epsilon}, \frac{c}{\epsilon} \Rightarrow a = -1 \\ &\Rightarrow \epsilon a = -\epsilon \quad \checkmark \end{aligned}$$

$$(a - \epsilon c)(a + \epsilon c) = 0 \Rightarrow \begin{cases} a = \epsilon c \\ a = -\epsilon c \end{cases}$$

$$\begin{aligned} \epsilon a &= \epsilon b + c \\ a &= \frac{\epsilon b + c}{\epsilon} \\ b^r &= ac \\ b^r &= \frac{\epsilon b + c}{\epsilon} \times c \rightarrow \epsilon b^r - \epsilon bc - \epsilon c^r = 0 \\ (\epsilon b - \epsilon c)(\epsilon b + \epsilon c) &= 0 \Rightarrow b = \frac{c}{\epsilon} \\ q &= \frac{b}{a} = \frac{c}{\frac{c}{\epsilon}} = \epsilon \rightarrow \frac{a\epsilon}{a\epsilon} = q^r = \epsilon \quad \checkmark \end{aligned}$$

$$\begin{aligned} \frac{a q^r}{a^r q^r} + \frac{a q}{a^r} &= \epsilon \rightarrow \frac{a q + q^r}{a^r} = \epsilon \rightarrow \epsilon a^r - a q - q^r = 0 \\ &\rightarrow a^r - a q - \epsilon a^r = 0 \\ \frac{a^r}{a q} &= \frac{a}{q} = 1 \rightarrow \frac{q}{a} = 1 \\ &\rightarrow \frac{-q}{\epsilon} = \frac{-1}{\epsilon} \rightarrow -\frac{1}{\epsilon} \end{aligned}$$

$$(a - \epsilon a)(a + \epsilon a) = 0 \Rightarrow \begin{cases} a = \epsilon a \\ a = -\epsilon a \end{cases}$$

$$\begin{aligned} a_\delta &= \epsilon V \\ a_\epsilon &= \sqrt{a_\delta \epsilon} \\ a &= \frac{a_\delta}{a_\epsilon} = \frac{\epsilon V}{a} = \epsilon \\ a_\epsilon &= a_1 q^r = a_1 \times \epsilon V = \epsilon \rightarrow a_1 = \frac{1}{\epsilon} \quad \checkmark \end{aligned}$$

$$\frac{1}{\epsilon} - \frac{1}{\epsilon} = \frac{1}{\epsilon} \quad \checkmark$$