

~~Handwritten scribbles at the top of the page.~~

$$qa^r + r^r a + r = \Lambda a^r + r^r a \Rightarrow ra^r + a = q$$

$$a = 1, 0 \quad a_\varepsilon = \varepsilon, 0 \quad \frac{a_\varepsilon}{a} = \frac{\varepsilon, 0}{\varepsilon, 0} = 1$$

$$q = \frac{c}{b} = \frac{b}{A} \rightarrow aq^r = c \quad aq = b$$

$$ra - r^r b = c - ra \quad aq^r = c, aq = b, ra - r^r b = c - ra$$

$$\rightarrow ra - r^r(aq) = aq^r - ra \rightarrow r - r^r q = q^r - r$$

$$\rightarrow r^r q + q^r = \varepsilon \rightarrow 0 = \varepsilon - r^r q + q^r \rightarrow q = \frac{\sqrt{14+9} \pm r}{r} \rightarrow q < -\varepsilon$$

3.60 $b-d, b, b+d$ $\sigma_{\text{mid}} \rightarrow b \leq \frac{1}{r}(b-d) \leq \frac{1}{r}(b+d)$

$$\frac{1}{r}(b-d) = b \text{ or } \frac{1}{r}(b+d) \rightarrow b^r - rbd - d^r = b^r + bd$$

$$\rightarrow -rbd + d^r - bd = 0 \rightarrow d^r - r^r bd = 0 \Rightarrow d(-r^r b + d) = 0 \Rightarrow d < \frac{r^r b}{r}$$

$$\rightarrow r^r q = r \frac{1}{r} \frac{a}{b} \rightarrow r^r q = \frac{a}{b} = \frac{b-d}{b} \Rightarrow \frac{b-r^r b}{b} = -r, \frac{b-r^r}{b} = 1$$

$$\frac{ar}{a^r} + \frac{ar^r}{a^r r^r} \Rightarrow r \Rightarrow \frac{r}{a} + \frac{r^r}{a^r r^r} \rightarrow \frac{r}{a} + \frac{r^r}{a^r} = r \xrightarrow{\times a^r} ra^r = ar + r^r$$

$$\rightarrow \frac{a}{r} = \frac{a^r}{ar} = \frac{a^r}{a^r} \rightarrow 0 = ra^r - ar + r^r \rightarrow ra^r - \left(\frac{a}{a}\right)a + \left(\frac{a}{a}\right)r \rightarrow$$

$$r - \frac{1}{a} + \frac{1}{a} = 0 \Rightarrow r^r a^r - x + 1 \neq 0 \rightarrow \frac{\sqrt{a+1}}{r} = x \Rightarrow x = 1 - \frac{1}{r}$$

$$a_r = \sqrt{a_\varepsilon} \rightarrow ar^r = \sqrt{ar^r} \rightarrow (ar^r)^r = ar^r \rightarrow a^r r^r = ar^r$$

$$\rightarrow ar^r = r^r \rightarrow r^r v = r^r = r = r^r \quad a_a = r^r v \rightarrow ar_\varepsilon = r^r v$$

$$ar^r = r^r v \rightarrow a = \frac{1}{r} \quad \frac{1}{r} - \frac{1}{r} = \frac{1}{r}$$