

$$a_{1,1} = a_1 + 1 \cdot d$$

$$d = \frac{-9d}{r} - (-1r) = -1r \frac{r}{r} + 1r = \frac{1}{r}$$

$$1 \cdot d = 1r$$

$$a_1 = a_1 q^v = 1 \quad q^v = \frac{1}{1r}$$

$$a_{1,1} = a_1 + 1 \cdot d \rightarrow -1r + 1r = 1$$

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$$a + aq + aq^v = r_1 \quad a(1+q+q^v) = r_1 \quad (1)$$

$$a \times aq \times aq^v = 4r \quad \frac{r}{q}(1+q+q^v) = r_1$$

$$a^3 q^v = 4r \quad aq = r \quad r + r(q+q^v) = r_1 q$$

$$a = \frac{r}{q}$$

$$r q^v - 1vq + r = 0$$

$$q = \frac{1v \pm \sqrt{1r^2}}{1} = \frac{1v \pm 1r}{1}$$

$$q = \frac{1}{r} \quad \underline{L} \quad q = \frac{r}{1} = r \rightarrow \text{حسب}$$

$$\underline{L} \rightarrow 1r, r, 1$$

$$a_r, a_v, a_q$$

$$(a_1 + rd), (a_1 + 4d), (a_1 + 1d)$$

$$(a_1 + 4d)^r = (a_1 + rd)(a_1 + 1d)$$

$$a_1^r + 4rd^r + 1ra_1d = a_1^r + 1 \cdot a_1d + 14d^r$$

$$4rd^r = -1ra_1d \quad 4rd^r + 1ra_1d = 0$$

$$rd(1 \cdot d + a_1) = 0$$

$$rd = 0 \quad d = 0$$

$$1 \cdot d + a_1 = 0 \quad d = -\frac{a_1}{1}$$

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$$x^r + r, rx, x^r - r$$

$$\frac{rx}{x^r + r} = \frac{x^r - r}{rx} \quad rx^r = (x^r - r)(x^r + r)$$

$$rx^r = x^r + rx^r - 1$$

$$x^r - rx^r - 1 = 0$$

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$$a_r, a_r, a_1$$

$$(a_1 + d), (a_1 + rd), (a_1 + vd)$$

$$(a_1 + rd)^r = (a_1 + d)(a_1 + vd)$$

$$a_1^r + rd^r + 4da_1 = a_1^r + 1a_1d + vd^r$$

$$rd^r - 1a_1d = 0 \quad rd^r = 1a_1d$$

$$d = a_1$$

$$1a, 1a, 1a \rightarrow q = \frac{ra}{ra} = r$$

$$a_{1,1} = a_1 q^q = \frac{1}{r} \times r^v = r^v = 1r$$

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$$x^r - rx^r - 1 = (x^r - r)(x^r + r)$$

$$x^r - r = 0 \quad x^r = r \quad x = \pm r$$

$$\text{if } x = r \rightarrow 1, r, r \rightarrow q = \frac{1}{r}$$

$$\text{if } x = -r \rightarrow 1, -r, r \rightarrow q = -\frac{1}{r} \quad \text{حسب}$$

$$S_v = a_1 \frac{1 - q^v}{1 - q} = 1 \times \frac{1 - (\frac{1}{r})^v}{1 - \frac{1}{r}} = 1 \times \frac{1 - \frac{1}{1r}}{\frac{1}{r}} = 1 \times \frac{1r}{1}$$

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

$$1 + q + q^r + q^v + q^r = \frac{1r}{1}$$

$$S_2 = a_1 + a_1 q + a_1 q^r + a_1 q^v + a_1 q^r =$$

$$= a_1 (1 + q + q^r + q^v + q^r) = 1r \times \frac{1r}{1} = 1r^2$$

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$$ra_r, ra_r, a_r$$

$$r(a_1, q), r(a_1, q^r), (a_1, q^r)$$

$$ra_1 q = \frac{ra_1 q + a_1 q^r}{r}$$

$$ra_1 q^r = ra_1 q + a_1 q^r$$

$$ra_1 q - ra_1 q^r + a_1 q^r = 0$$

$$a_1 q (r - r q + 1) = 0$$

$$a_1 q = 0 \quad \rightarrow (q - 1)(q - r) = 0$$

$$a = 0 \quad \text{حسب}$$

$$q = 1 \rightarrow \text{حسب}$$

$$\underline{L} q = r \checkmark$$

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$$a_v = a_1 + 4d = 4r \quad 4d = 4r \quad d = 1 \cdot 1a \quad (r)$$

$$a_r = a_1 + rd = 1 + 1r \cdot 1a = 1r \cdot 1a = A$$

$$a_v = a_1 q^4 = 4r \quad q^4 = 4r \quad q = \pm r$$

$$a_r = a_1 q^v = \pm 1$$

$$A + B \xrightarrow{q=r} 1r \cdot 1a + 1 = r \cdot 1a$$

$$A + B \xrightarrow{q=-r} 1r \cdot 1a - 1 = r \cdot 1a$$

$$a_1 + a_e + a_v = v^r$$

$$a + aq^r + aq^q = v^r$$

$$t_1 = a_1 = a \quad t_r = a_e = aq^r \quad t_l = a_v = aq^q$$

$$t_r = t_1 + d \rightarrow aq^r = a + d \quad d = aq^r - a$$

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

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

$$aq^q = qa q^r - qa \rightarrow aq^q - qa q^r + qa = 0$$

$$a(q^q - qa q^r + 1) = 0$$

$$q^r = \frac{q \pm \sqrt{11-12}}{r} = \frac{q \pm \sqrt{r q}}{r} = \frac{q \pm v}{r}$$

$$\oplus \rightarrow q^r = 1 \quad q = r$$

$$\ominus \rightarrow q^r = 1 \quad q = 1$$

$$q = 1 \rightarrow a + a + a = r a = v^r \quad a = \frac{v^r}{r}$$

$$q = r \rightarrow a + ra + qa = v^r a = v^r \quad a = 1$$

$$d = a(q^r - 1) = 1 \times (1 - 1) = 0 \quad \left. \begin{array}{l} d = v \\ d = 0 \end{array} \right\}$$

$$d = a(q^r - 1) = \frac{v^r}{r} \times (1 - 1) = 0 \quad \left. \begin{array}{l} d = v \\ d = 0 \end{array} \right\}$$

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$$d = \frac{v}{r} - r = \frac{v-1}{r} = -\frac{1}{r}$$

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

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

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

$$\frac{a}{r} + x, \frac{1}{r} + x, -1 + x$$

$$\left(\frac{1}{r} + x\right)^r = \left(x + \frac{a}{r}\right)(x - 1)$$

$$\frac{1}{14} + x + \frac{x}{r} = x + \frac{x}{r} - \frac{a}{r} \quad -\frac{r}{14}$$

$$\frac{x}{r} = -\frac{r1}{14} \quad x = -\frac{r1}{r}$$

$$-r, -a, -\frac{ra}{r}$$

$$q = \frac{-\frac{ra}{r}}{-a} = \frac{-\frac{ra}{r}}{-a} \times \frac{1}{-\frac{a}{r}} = \frac{a}{r}$$