

۱۸, ۵

$$a_1 + a_2 + a_3 = d_1 + d_2 = 21 - d_2 = 17$$

$$a_1 d_2 d_3 = 45 \Rightarrow d^2 q^2 = 45 \Rightarrow d q = 5 = d_2$$

$$d_1 d_2 = (d_2)^2 \Rightarrow d_1 d_2 = 19 \Rightarrow (5)^2 = 19$$

$$a_1 + d_2 = 17$$

$$a_1 d_2 = 19$$

$$\left. \begin{array}{l} a_1 + d_2 = 17 \\ a_1 d_2 = 19 \end{array} \right\} \begin{array}{l} d_1 = 1, d_2 = 17 \rightarrow q = 5 \rightarrow * \\ d_1 = 19, d_2 = 1 \rightarrow q = \frac{1}{5} \checkmark \end{array}$$

$$(x^2 + 2)(x^2 - 2) = 4x^2 = x^4 + 2x^2 - 4 \Rightarrow x^4 - 2x^2 - 4 = 0$$

$$(x^2 - 4)(x^2 + 2) \Rightarrow x^2 = 4 \Rightarrow x = \pm 2 \checkmark$$

$$x = -2 \rightarrow a_n = 1(-2)^n \rightarrow *$$

$$x = 2 \rightarrow a_n = 1(2)^n \checkmark$$

$$S_n = a \left( \frac{q^n - 1}{q - 1} \right)$$

$$S_n = \frac{1}{1 - \frac{1}{2}} = \frac{1(1 - (\frac{1}{2})^n)}{\frac{1}{2}} = \frac{127}{1}$$

$$1 + q + q^2 + q^3 + q^4 = \frac{121}{11}$$

$$q^5 = a$$

$$a(1 + q + q^2 + q^3 + q^4) = a + aq + aq^2 + aq^3 + aq^4 = a_1 + a_2 + a_3 + a_4 + a_5 = \frac{121}{11} \times q^4 \Rightarrow S_5 = 121 \times q^4 = 396 \checkmark$$

$$d = \frac{q^2 - 1}{4} = \frac{q^2}{4} = 1/\omega \rightarrow 1 + 3d = 1 + 3/\omega = 32/\omega \rightarrow A$$

$$q = \frac{q^2}{1} = a^2 \rightarrow a = 2 \rightarrow 1 \times (q)^2 = 1 \times 4 = 4 = B$$

$$a = -2 \rightarrow B = -4$$

$$A + B = 32/\omega + 4 = 40/\omega \checkmark$$

$$A + B = 24, 5$$

$$a_n = -2 \times \frac{q \omega}{4} (\dots) \Rightarrow a_n = -2 \times (n+1) \frac{1}{4}$$

$$-\frac{q^2}{4} + \frac{1}{4}$$

$$a_{1,1} = -2 \times 1 \times \frac{1}{4} = 2\omega - 2 = 1$$

$$1 \times 1 = a q^2 \Rightarrow 1 \times 1 \times q^2 = 1 \Rightarrow q^2 = \frac{1}{1 \times 1} \Rightarrow q = \frac{1}{1} \checkmark$$

$$T_0 = 1 \times 1 \times a_1 \dots$$

$$\left. \begin{array}{l} a_r \rightarrow t_1 \\ d_v \rightarrow t_r \\ d_q \rightarrow t_r \end{array} \right\} a_r \times a_q = (a_v)^r \Rightarrow \underbrace{(a+d)(a+nd)}_{a^r + 1 \cdot d + 1 \cdot nd} = a^r + r \cdot d + 1 \cdot nd \left\{ \begin{array}{l} r \cdot d + 1 \cdot nd = 0 \\ r \cdot d(1 + nd) = 0 \end{array} \right. \begin{array}{l} d=0 \\ d=-1 \cdot d \end{array}$$

$$\left. \begin{array}{l} t_1 = a_r - 1 \cdot d + r \cdot d = -nd \\ t_r = d_v = -1 \cdot d + r \cdot d = -rd \\ t_r = d_q = -1 \cdot d + nd = -rd \end{array} \right\} q = \frac{-nd}{-rd} = r \left\{ \begin{array}{l} t_1 = a_r = a \\ t_r = d_v = a \\ t_r = d_q = a \end{array} \right\} q=1$$

$$\left. \begin{array}{l} a_r = t_x \\ a_s = t_{x+1} \\ a_n = t_{x+r} \end{array} \right\} a_r \times a_n = (a_s)^r \Rightarrow \underbrace{(a+d)(a+vd)}_{a^r + 1 \cdot d + v \cdot d} = a^r + r \cdot d + v \cdot d \left\{ \begin{array}{l} r \cdot d - v \cdot d = 0 \\ r \cdot d(d-v) = 0 \end{array} \right. \begin{array}{l} d=0 \\ d=v \end{array}$$

$$\left. \begin{array}{l} t_x = a_r = a + a \cdot r \cdot d \\ t_{x+1} = a_s = a + r \cdot d + v \cdot d \\ t_{x+r} = a_n = a + v \cdot d = nd \end{array} \right\} q = \frac{r \cdot d}{r \cdot a} = r \Rightarrow t_1 = \frac{1}{r} (r) = 1 \left\{ \begin{array}{l} t_x = a_r = a \\ t_{x+1} = a_s = a \\ t_{x+r} = a_n = a \end{array} \right\} q=1 \quad t_1 = \frac{1}{r}$$

$$\left. \begin{array}{l} r \cdot t_r \rightarrow d_x \\ r \cdot t_r \rightarrow d_{x+1} \\ t_r \rightarrow d_{x+r} \end{array} \right\} r \cdot t_r + t_r = r(r \cdot t_r) \Rightarrow \underbrace{r \cdot a q + a q^r}_{q(r \cdot d + a q^r)} = r \cdot a q^r \Rightarrow r \cdot a + a q^r = r \cdot a q \Rightarrow a q^r - r \cdot a q + r \cdot a = 0$$

$$a(q^r - r \cdot q + r) = 0$$

$$a(q - r)(q - 1) = 0$$

$$a = 0 \quad q = r \quad q = 1$$

$$\boxed{r=q}$$

$$a_n = r \left( \frac{1}{r} \right) \dots \rightarrow \frac{1}{r} \left( \frac{1}{r} \right) \dots \Rightarrow a_n = r + (n-1) \cdot \frac{1}{r}$$

$$\left. \begin{array}{l} a_r = r + (r) \cdot \frac{1}{r} = \frac{r}{r} = t_x \\ a_n = r + (r) \cdot \frac{1}{r} = \frac{1}{r} = t_{x+1} \\ d_{1r} = r + 1 \cdot \frac{1}{r} = -1 = t_{x+r} \end{array} \right\} \rightarrow \left( \frac{r}{r} + x \right) (-1 + x) = \left( \frac{1}{r} + x \right) \checkmark$$

$$x^r + \frac{1}{r} x - \frac{r}{r} = x^r + \frac{1}{r} x + \frac{1}{r}$$

$$\Rightarrow -\frac{1}{r} x - \frac{19}{14} = 0 \Rightarrow \frac{1}{r} x = -\frac{19}{14} \Rightarrow x = -\frac{19}{14} \cdot \frac{r}{1} = -\frac{19r}{14}$$

$$q = \frac{\frac{1}{r} - \frac{19}{r}}{\frac{r}{r} - \frac{19}{r}} = \frac{1-19}{r-19} = \frac{-18}{r-19}$$

$$\left. \begin{array}{l} t_1 = a_1 \\ t_r = a_r \\ t_v = a_1 \end{array} \right\} a_1 a_1 \cdot a(a_1)^r \rightarrow a(a+rd) = (a+d)^r \Rightarrow a^r + r \cdot a \cdot d = a^r + r \cdot d + r \cdot a \cdot d \Rightarrow v \cdot a \cdot d - d^r = 0$$

$$d(v \cdot a - d) = 0 \Rightarrow \begin{array}{l} d=0 \\ d=va \\ \Rightarrow a = \frac{1}{v} d \end{array}$$

$$d_1 + a_r + d_r = v \cdot r \Rightarrow d + a + d + a + r \cdot d = v \cdot r = r \cdot d + 1 \cdot d$$

$$d = \frac{1}{v} d \left\{ \begin{array}{l} \frac{r}{v} d + 1 \cdot d = v \cdot r \Rightarrow \frac{r}{v} d = v \cdot r \\ \Rightarrow d = \frac{1}{\alpha} v \end{array} \right.$$