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$$\frac{a}{q} \times a \times aq = 4f \rightarrow a^3 = 4f \rightarrow a = f$$

$$\frac{a}{q} + a + aq = 21 \rightarrow \frac{f}{q} + f + fq = 21 \rightarrow q + \frac{1}{q} = \frac{17}{f} \rightarrow q^2 - \frac{17}{f}q + 1 = 0$$

$$\frac{f}{q} + f + fq = 21 \rightarrow \frac{f}{q} + f + fq = 21 \rightarrow q + \frac{1}{q} = \frac{17}{f}$$

$$\begin{cases} q = f \times \\ q = \frac{1}{f} \end{cases}$$

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$$(x^2 + f)(x^2 - 1) = 2x^2$$

$$x^4 - 2x^2 + fx^2 - 1 = 2x^2$$

$$x^4 - 2x^2 + fx^2 - 1 = 0$$

$$\Delta = \frac{2 \pm \sqrt{4 + 4f}}{2} = \frac{2 \pm 2}{2} \Rightarrow \Delta = f \rightarrow x = \pm 2 \rightarrow x = 2$$

$$\Delta = -2 \times$$

$$a = t_1 = x^2 + f = 1$$

$$q = \frac{1}{f}$$

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

$$= 1 \left( \frac{\frac{1 - \frac{1}{f^n}}{1 - \frac{1}{f}}}{\frac{1}{f} - 1} \right)$$

$$= 1 \left( \frac{\frac{1 - \frac{1}{f^n}}{1 - \frac{1}{f}}}{\frac{1}{f} - 1} \right) = \boxed{10/175}$$

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$$S_5 = a_1(1 + q + q^2 + q^3 + q^4) \Rightarrow 2 \times 2 \left( \frac{1 - \frac{1}{11}}{1 - \frac{1}{11}} \right) = \boxed{34}$$

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$$1 \text{ — — — } A \text{ — — — } 4f$$

$$d = \frac{4f - 1}{4} = 10/11$$

$$A = 1 + 3d$$

$$\frac{4f}{11} = 1 + 3 \times \frac{10}{11}$$

$$1 \text{ — — — } B \text{ — — — } 2f$$

$$r^4 = 2f$$

$$r = 2$$

$$B = 1 \times r^3 = 2^3 = 8$$

$$A + B = 34/11 + 8 = 10/11$$

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$$-2t_1 - \frac{90}{f} \dots$$

$$d = -\frac{90}{f} - (-2f) = \frac{1}{f}$$

$$t_{1.1} = -2f + 100 \left( \frac{1}{f} \right)$$

$$= -2f + 20$$

$$= \boxed{1}$$

$$128, a, \dots$$

$$r^4 = \frac{128}{1}$$

$$\boxed{r = 2}$$

$$a_1 = 128 \times r^4$$

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| $t_r = a + rd$<br>$t_v = a + vd$<br>$t_n = a + nd$<br>$t_v^r = t_r \times t_n$<br>$(a + rd)^r = (a + vd)(a + nd)$<br>$rad + r^2d^2 = 0$<br>$rd(a + vd) = 0$<br>$a + vd = 0$<br>$d = -\frac{a}{v}$                     | $t_n = a + nd$<br>$q = \frac{t_v}{t_r} = \frac{a + vd}{a + rd} \xrightarrow{\frac{ra}{a}} \frac{\frac{ra}{a}}{\frac{ra}{a}}$<br>$= \frac{r}{r} = 1$<br>$d = 0$<br>جميع قيم $d$ ممكنة                                                                                                                                                                                                                                                        |
| $t_r = a + d$<br>$t_f = a + rd$<br>$t_n = a + vd$<br>$t_f^r = t_r \cdot t_n$<br>$(a + rd)^r = (a + d)(a + vd)$<br>$ar + vad + rd^2 = a^2 + vad + vdr \rightarrow rd^2 - rad = 0$                                      | $d + d = ra$<br>$a + rd = fa$<br>$a + vd = na$<br>$q = \frac{fa}{ra} = r$<br>$a_{10} = \frac{1}{r} \times r^9 = 128$<br>$d = a$                                                                                                                                                                                                                                                                                                             |
| $r^r ar, r^r ar^r, ar^r$<br>$r^r ar^r = \frac{r^r ar + ar^r}{r}$<br>$r^r ar^r = r^r r + ar^r$<br>$r^r r^r = r^r r + r^r$<br>$r^r - r^r r^r + r^r = 0 \rightarrow r(r^r - (r^r + r)) = 0 \rightarrow r(r-1)(r-r) = 0$  | $r = 0$<br>$r = 1$<br>$r = r$<br>$r = 1$                                                                                                                                                                                                                                                                                                                                                                                                    |
| $r, \frac{v}{r}, \dots$<br>$d = \frac{v}{r} - r = -\frac{1}{r}$<br>$t_n = r - (n-1)\frac{1}{r}$<br>$t_f = r - \frac{r}{r} = \frac{a}{r}$<br>$t_n = r - \frac{v}{r} = \frac{1}{r}a$<br>$t_{1r} = r - \frac{1}{r} = -1$ | $t_{1r} + x, t_n + x, t_f + x$<br>$A = t_{1r} + x = -1 + x$<br>$B = t_n + x = \frac{1}{r} + x$<br>$C = t_f + x = \frac{a}{r} + x$<br>$B^r = A \cdot C$<br>$(\frac{1}{r} + x) = (-1 + x)(\frac{a}{r} + x) \rightarrow x = -\frac{1}{r}$<br>$A = -1 - \frac{1}{r} = -\frac{r+1}{r}$<br>$B = \frac{1}{r} - \frac{1}{r} = 0$<br>$C = \frac{a}{r} - \frac{1}{r} = \frac{a-1}{r}$<br>$q = \frac{B}{A} = \frac{0}{-\frac{r+1}{r}} = \frac{r}{r+1}$ |
| $t_1 = a + a + a + \dots + a = vr$<br>$t_f = ar^r$<br>$t_v = ar^r$<br>$a + ar^r + ar^r = vr$<br>$a(1 + r^r + r^r) = vr$                                                                                               | $d = ar^r - a = a(r^r - 1)$<br>$a(n-1) = Va$<br>$\frac{d}{A_1} = \frac{Va}{a} = V$<br>$A_r = ar^r$<br>$A_{10} = ar^r$<br>$A_r - A_1 = d$<br>$(ar^r - a) = d$<br>$A_{10} - A_r = 10d$<br>$(ar^{10} - ar^r) = 10d$<br>$(ar^{10} - ar^r) = 10(ar^r - a)$<br>$r^{10} - r^r = 10r^r - 10 \rightarrow r^{10} - 11r^r + 10 = 0$                                                                                                                    |