

$$a_n = \frac{1}{n^2}$$

$$an^2 + bn + c$$

$$a = \frac{1}{4} \rightarrow \frac{1}{4}n^2 + bn \rightarrow \frac{1}{4} + b = 1 \rightarrow b = \frac{3}{4}$$

$$c = 0$$

$$a_n = \frac{1}{4}n^2 - \frac{3}{4}n \xrightarrow{a=10} \frac{1}{4} \times 10 \times 10 - \frac{3}{4} \times 10 = 14\frac{1}{4}$$

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$$a_n = \frac{1}{n^2}$$

$$a = \frac{1}{4} \quad c = 0$$

$$an^2 + bn + c \rightarrow \frac{1}{4}n^2 + bn \rightarrow \frac{1}{4} + b = 0 \rightarrow b = -\frac{1}{4}$$

$$\frac{1}{4}n^2 - \frac{1}{4}n = 55 \rightarrow \frac{1}{4}n(n-1) = 55 \rightarrow n(n-1) = 110 \rightarrow \boxed{n=11}$$

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$$U' \rightarrow 5, 13, 21, \dots \quad n-3 \rightarrow U' = 1 \times 11 - 3 = 8$$

$$V' \rightarrow 9, 13, \dots \quad n+1 \rightarrow V' = 4 \times 11 + 1 = 45$$

$$\rightarrow 8 + 45 = 130$$

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$$a_n = \frac{(-1)^n}{n} \rightarrow n \neq 0$$

$$n=1 \rightarrow \frac{(-1)^1}{1} = -1$$

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

$$n=3 \rightarrow \frac{(-1)^3}{3} = -\frac{1}{3}$$

$$n=4 \rightarrow \frac{(-1)^4}{4} = \frac{1}{4}$$

$$\Rightarrow \left. \begin{array}{l} n=1 \rightarrow \frac{1}{1} = 1 \\ n=2 \rightarrow \frac{1}{2} = \frac{1}{2} \end{array} \right\} \rightarrow \frac{1}{1} - (-1) = \frac{1}{1} + 1 = \frac{2}{1}$$

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$$a_n = -5n + 22 \rightarrow -5K + 22 = (-4)^2 - 7 \times 3 \rightarrow -5K + 22 = -27 - 21 \rightarrow -5K = -70 \rightarrow \boxed{K=14}$$

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$$t_{10} - t_9 = 11 \rightarrow t_1 + 9d - (t_1 + 8d) = 1d = 11 \rightarrow \underline{d = 11}$$

$$t_4 - t_1 = t_1 + 3d - t_1 = 3d \xrightarrow{d=11} 33$$

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$$t_7 = 11 \rightarrow t_1 + d = 11 \rightarrow t_1 + d = 11$$

$$t_8 = 10 \rightarrow t_1 + 2d = 10 \rightarrow \underline{t_1 + 2d = 10}$$

$$-2d = -1 \rightarrow d = \frac{1}{2}, t_1 = \frac{11}{2}$$

$$1, 1\frac{1}{2}, 2, 2\frac{1}{2}, 3, 3\frac{1}{2}, \dots$$

$$[2n - 1]$$

$$t_7 = 11$$

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$$\frac{1}{a}, \frac{4}{b}, \frac{9}{c}, \frac{16}{d}, \dots$$

$$\frac{fn - r}{rn + r} < \frac{r}{r} \rightarrow \frac{fn - r}{rn + r} < 1 \rightarrow fn - r < rn + r$$

$$fn < 13 \rightarrow n < \frac{13}{f} \rightarrow n < 4, 1 \rightarrow 107 - 64$$

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$$t_n = 4, 9, 16, 25, 36, \dots$$

$$a = -\frac{r}{f} / c = 0 \rightarrow -\frac{r}{f}n^2 + bn \xrightarrow{n=1} -\frac{r}{f} + b = 4 \rightarrow b = \frac{13}{f}$$

$$t_n = -\frac{r}{f}n^2 + \frac{13}{f}n$$

$$rA + dB \rightarrow r(-\frac{r}{f}) + d(\frac{13}{f})$$

$$\frac{-9}{f} + \frac{13d}{f} = \frac{44}{f} = [33]$$

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$$t_n = 4, 9, 16, 25, 36, \dots$$

$$a = 1 \rightarrow an^2 + bn + c \rightarrow n^2 + bn - 4 \xrightarrow{n=1} 1 + b - 4 = -4 \rightarrow b = -1$$

$$c = -4 \rightarrow n^2 - n - 4$$

$$t_7 = t_1 + d = 11 \rightarrow t_1 + d = 11$$

$$t_8 = t_1 + 2d = 10 \rightarrow t_1 + 2d = 10$$

$$2d = 10 \rightarrow \underline{d = 5}, \underline{t_1 = 6}$$

$$24 + 5(n-1) = 24 + 5n - 5 = 19 + 5n$$

$$21 + 5n = n^2 - n - 4 \rightarrow n^2 - 6n - 25 = 0 \rightarrow (n-9)(n+3) = 0$$

$$\underline{n = 9}, n = -3$$

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