

$$\left. \begin{array}{l} S_n = 147 + S_{n-1} \\ a_{2n} = a_1 + 39 \end{array} \right\} \rightarrow \left\{ \begin{array}{l} \frac{n}{2} [2a_1 + d(n-1)] = 147 + \frac{n}{2} [2a_1 + d(n-1)] \\ d + d(2n-1) = a_1 + 39 \end{array} \right.$$

$$n[2(a_1 + dn) + d(n-1)] = 294 + n(2a_1 + d(n-1))$$

$$d(2n-1) = 39$$

$$2a_1 n + 2dn^2 + dn^2 - nd = 294 + 2a_1 n + dn^2 - nd$$

$$2dn^2 = 294$$

$$d(2n-1) = 39$$

$$\frac{2dn^2}{d(2n-1)} = \frac{98}{13} \rightarrow 26dn^2 = 98d(2n-1)$$

$$d=0 \rightarrow$$

$$26n^2 = 196n - 98 \quad | :2$$

$$13n^2 - 98n + 49 = 0$$

$$\text{rank } 14 = 2n \rightarrow 20 \rightarrow 23$$

$$d(2n-1) = 39$$

$$d=3$$

$$n=7$$

$$n=13$$