

$$\frac{26}{(297)} \quad \textcircled{K} \quad a_n = S_n - S_{n-1} = a_n \left(a_n + \frac{1}{2} \right) - a_{n-1} \left(a_{n-1} + \frac{1}{2} \right) = a_n^2 + \frac{1}{2} a_n - a_{n-1}^2 - \frac{1}{2} a_{n-1}$$

$$0 = a_n^2 - \frac{1}{2} a_n - a_{n-1}^2 - \frac{1}{2} a_{n-1} = (a_n^2 - a_{n-1}^2) - \frac{1}{2} (a_n + a_{n-1}) = (a_n - a_{n-1})(a_n + a_{n-1}) + \frac{1}{2} (a_n + a_{n-1}) =$$

$$0 = (a_n + a_{n-1}) \left(a_n - a_{n-1} + \frac{1}{2} \right)$$

כולנו נרצה שיהיה

$$a_n - a_{n-1} = \frac{1}{2} \rightarrow \text{הפרש קבוע}$$

$$\textcircled{P} \quad S_1 = a_1 = a_1 \left(a_1 + \frac{1}{2} \right)$$

$$a_0 = a_1 + qd$$

$$0 + q \cdot \frac{1}{2} = \frac{q \cdot \frac{1}{2}}{2}$$

$$\frac{1}{2} + q \cdot \frac{1}{2} = \frac{q}{2}$$

$a_1 + \dots + a_{n-1} + a_n$