

$$\frac{L.S}{S} \textcircled{c} a_n = S_n = \frac{a}{(q-1)^2} (q^2 - 2 + 1 - q) \quad n=1 \quad \text{הבדלה בין האיברים}$$

$$a_1 = \frac{a}{(q-1)^2} \cdot (q-1)^2 \quad \checkmark$$

$$S_1 + S_2 + \dots + S_k + S_{k+1} = \frac{a}{(q-1)^2} (q^{k+2} - (k+1)q^{k+1}) \quad n=k+1$$

$$\frac{a}{(q-1)^2} (q^{k+1} - kq + k - q) + \frac{a(q^{k+1} - 1)}{q-1} = \frac{a}{(q-1)^2} (q^{k+2} - kq - 2q + k + 1)$$

$$\frac{a}{(q-1)^2} (q^{k+1} - kq + k - q + q^{k+2} - q^{k+1} - q + 1) =$$

$$\frac{a}{(q-1)^2} (q^{k+2} - kq - 2q + 1) =$$

\textcircled{d} (a) פשוט נבצע מהלך $q=1$

$$S_1 + S_2 + \dots + S_n$$

$$\downarrow \quad \downarrow \quad \quad \quad \downarrow$$

$$a + 2a + 3a + \dots + na = a(1 + 2 + \dots + n) = \frac{an(n+1)}{2}$$