

$a_n = 2^{n-2} \Rightarrow a_{10} = 2^8 = 256 \quad (\text{الف})$ $\frac{a_{17}}{a_{13}} = q^4 = 16 \quad (\text{ب})$ $a_1 \times a_8 = b^2 \Rightarrow b^2 = a_1 q^7 \Rightarrow b = a_1 q^{\frac{7}{2}} = a_1 q^3 = 32 \quad (\text{ج})$	۱
$\frac{a_8}{a_5} = q^3 = \frac{96}{12} = 8 \Rightarrow q = 2$ $a_{10} = a_0 q^0 = 12 \times 2^2 = 48$	۲
$D_0 = (a_r)^0 \Rightarrow a_r^0 = 2 \times 2 \Rightarrow a_r = \sqrt{2 \times 2} = 2 \quad (\text{الف})$ $a_1 \times a_8 = a_r^2 \Rightarrow a_1 \times a_8 = 4 \quad (\text{ب})$	۳
$t_n = 2^a, \sqrt{2}, 2^b \Rightarrow 2^a \times 2^b = 2 \Rightarrow 2^{a+b} = 2 \Rightarrow a+b = 0$ a, c, b $c = \frac{a+b}{2} = 0$	۴
$x^2 = (x+1)(1-x) \Rightarrow x^2 = x - x^2 + 1 - x \Rightarrow 2x^2 = 1 \Rightarrow x^2 = \frac{1}{2} \Rightarrow x = \pm \sqrt{\frac{1}{2}}$	۵

$\left. \begin{aligned} a + aq^r &= 17 \\ aq + aq^r &= 17 \end{aligned} \right\} \Rightarrow \frac{a(1+q^r)}{a(q+q^r)} = \frac{17}{17}$ $\Rightarrow \frac{1+q^r}{q+q^r} = \frac{17}{17} \Rightarrow q = \frac{1}{r}, a = 17$ $a_n = \{17, 1, r, 1\}$ $\text{Max} = a_1 = 17$	د
$a_1 + a_r + a_r = 17$ $a_1 \cdot a_r \cdot a_r = 17 \Rightarrow a_r = 17 \Rightarrow a_r = 17$ $\frac{1}{r} \cdot r \cdot r = 17 \Rightarrow r = 17$ $17 + 17q + 17q^r = 17q \Rightarrow 17q^r - 17q + 17 = 0$ $\Delta = 98 \quad \left\{ \begin{aligned} q &= \frac{1 \pm \sqrt{98}}{2} \\ q &= \frac{1}{r} \end{aligned} \right\} \Rightarrow \begin{aligned} a_n &= 1, 17, 1 \\ a_n &= 1, 17, 1 \end{aligned}$	د
الف) $S_1 = r \left(\frac{r^{10} - 1}{r - 1} \right) = r^{10} - 1 = 1023$ ب) $P_1 = (a, a_1) = (a, r^9) = (r^9, r^9)$	د
$\begin{aligned} a - aq &= a(1-q) \\ aq - aq^2 &= aq(1-q) \\ aq^2 - aq^3 &= aq^2(1-q) \end{aligned} \quad \left. \begin{aligned} &\times q \\ &\times q \\ &\times q \end{aligned} \right\}$ فرمانت = 9	د
$S_n = \frac{n}{r}(ra + (n-1)d)$ $a_1, a_2, \dots, a_n$ $a + a + d + \dots + a + (n-1)d = na + \frac{n(n-1)}{2}d$ $= \frac{n}{2}(ra + (n-1)d)$ الف	د