

الف - $t_n = 5, 9, 13, 17, \dots$
 $+2 \quad +2 \quad +2$

ب - $t_n = 4n + 1$
 $t_{10} = 4 \times 10 + 1 = 41$

الف - $t_n = 4, 10, 16, 22, \dots$ * $S_n = \frac{n}{2} (a_1 + a_n) = \frac{n}{2} (2a_1 + (n-1)d)$
 $+2 \quad +2 \quad +2$

ب - $S_{10} = \frac{10}{2} (2 \times 4 + (10-1) \times 6) = \frac{10}{2} \times 58 = 290$
 $a_1 + (n-1)d = 4 + (10-1) \times 6 = 58$
 $2 \times 4 + 11 \times 6 = 2 \times 4 + 66 = 74$

ب - $4 \times 18 = 72 \rightarrow 19, 25, 31, 37$
 شماره‌های جفتی $a_{19} + a_{30} + a_{31} + a_{32} =$
 شماره‌های فردی $a_1 + (19-1)d + a_1 + (30-1)d + a_1 + (31-1)d + a_1 + (32-1)d =$
 $d = 2 - (1 + 0.5) = 2 - 1.5 = 0.5$
 $2d = 2(1 - 0.5) = 2 - 1 = 1$

الف - $a_n = 5^x, 3 \times 5^x, 5^y \Rightarrow 5^x, 3 \times 5^x, 5^y$
 $d = 3 \times 5^x - 5^x = 5^x(3-1) = 2 \times 5^x$
 $b_n = x, y, z$
 $d' = 2 - x \quad 2 - x = y - 2$
 $d' = y - 2 \quad 2 + 2 = y + x$
 $x + y = 4$
 $y + 2x = 1$
 $x + y = 4$
 $3x = 3 \quad x = 1 \quad y = 3$
 $x \cdot y = 1 \times 3 = 3$

الف - $t_n = 2x - 4, 2x - 1, 2x, \dots$
 $+1 \quad +1$
 $d = 1$
 از سویی دیگر $d = 2x - 2x + 1 = 1$
 $2x + 1 = 3$
 $2x = 2 \rightarrow x = \frac{2}{2} = 1$
 $a_1 = 2x - 4 = 2 \times 1 - 4 = -2$

ب - $a_n = a + (n-1)d$
 $a_n = -2 + (n-1) \times 1$
 $a_n = -2 + n - 1 = n - 3$
 $a_4 = 4 - 3 = 1$

