

الف) (۲)
 $a_n = 5n + 1$ ✓
 $a_1 = 5(1) + 1 = 6$ ✓

الف) (۲)
 $a_n = 5n + 2$
 $a_1 = 5(1) + 2 = 7$
 $S_n = \frac{n}{2} (a_1 + a_n)$
 $\frac{1}{2} (7 + 17) = 12$ ✓
 $a_{11} = 5(11) + 2 = 57$
 $a_{12} = 5(12) + 2 = 62$
 $12(7 + 62) = 492$ ✓

(۲)
 $a_n = a + (n-1)d$
 $a = 1 + \sqrt{2}$
 $d = 2 - (1 + \sqrt{2}) = 1 - \sqrt{2}$
 $a_{12} = a + 11d = (1 + \sqrt{2}) + 11(1 - \sqrt{2}) = 12 - 10\sqrt{2}$
 $a_{13} = a + 12d = (1 + \sqrt{2}) + 12(1 - \sqrt{2}) = 13 - 11\sqrt{2}$
 $12 - 10\sqrt{2} + 13 - 11\sqrt{2} = 25 - 21\sqrt{2}$ ✓

(۲)
 $x \cdot \frac{1}{2} = \frac{ax + ay}{2} \Rightarrow x \cdot \frac{1}{2} = \frac{ax + ay}{2} \Rightarrow y = x + 1$
 $2 = \frac{x + y}{2} \Rightarrow x + y = 4 \Rightarrow x + (x + 1) = 4 \Rightarrow x = 1$ ✓
 $y = x + 1 = 1 + 1 = 2$ ✓
 $\Rightarrow x \cdot y = 1 \cdot 2 = 2$ ✓

(۲)
 $a_1 - a_1 = a_2 - a_1 \Rightarrow (2x - 1) - (x - 1) = x - (2x - 1) \Rightarrow x = 1$ ✓
 $d = a_2 - a_1 = (2x - 1) - (x - 1) = x$
 $a_1 = 2x - 1 = 2(1) - 1 = 1$
 $a_2 = a_1 + d = 1 + 1 = 2$ ✓

$a_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $b_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $c_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $d_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $e_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $f_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $g_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $h_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $i_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $j_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $k_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $l_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $m_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $n_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $o_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $p_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $q_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $r_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $s_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $t_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $u_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $v_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $w_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $x_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $y_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$
 $z_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d)$

$a_1 + a_v + a_w = a + (a+d) + (a+r_d) = r_a + r_d = r_a \Rightarrow a+d = r_a$
 $a_1 + d_1 + a_v + a_w = a + (a+r_d) + (a+r_d) = r_a + r_d = r_a \Rightarrow a+d = r_a$
 $(a + r_d) + (a+d) = r_a = \frac{r_a}{2}$
 $a + r_a = v \Rightarrow a_1 = \frac{r_a}{2} \Rightarrow a_w = -r_a + a_v = r_d \Rightarrow a_v = -r_a + a_v = r_d$
 $a_v = -r_a + a_v = r_d \Rightarrow a_v = -r_a + a_v = r_d$

$a_1 + a_v + a_w = a_v + (a+d) + (a+r_d) = r_a + r_d = r_a \Rightarrow a+d = r_a$
 $a_f + d_f = (a+r_d) + (a+r_d) = r_a + r_d = r_a$
 $r(a-d) + v_d = r_d \Rightarrow d = r \Rightarrow a = r - r = 0$
 $a_1 = r + q + r = \frac{r}{2}$

$S_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = d = r_d$
 $S_1 = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = \frac{1}{2} (r_a + r_d) = d = r_d$
 $a_v = a + r_d = a + r_d = r_a \Rightarrow a = r_a - r_d = r_a$
 $a_v = a + r_d = a + r_d = r_a \Rightarrow a = r_a - r_d = r_a$

$a_v = a + r_d = r_d \Rightarrow a + r_d = r_d \Rightarrow a = 0$
 $a_f = a + r_d = a + r_d = r_d \Rightarrow a = 0$
 $b_f = a + r_d = r_d = r_a + r_d = r_a \Rightarrow a = 0$
 $a_1 = r_a \Rightarrow a_v = r_d \Rightarrow a_w = r_d \Rightarrow a_f = r_d \Rightarrow a_d = r_d$

$a_1 = r_a \Rightarrow a_v = r_d \Rightarrow a_w = r_d \Rightarrow a_f = r_d \Rightarrow a_d = r_d$