

$$tn = \underbrace{5, 9, 13, 17}_{+4, +4, +4} \Rightarrow a_n = 4n + 1 \checkmark$$

$$a_1 = \frac{5 \times 1}{1} + 1 = 6 \checkmark$$

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$$tn = \underbrace{5, 9, 13, 17, 21, 25}_{+4, +4, +4, +4, +4} \Rightarrow a_n = 4n + 1 \checkmark / sn = \frac{n}{2} [2a_1 + (n-1)d] \Rightarrow$$

$$s_1 = \frac{1}{2} \left[\frac{5 \times 1}{1} + \frac{4 \times 1}{1} \right] = 5 \checkmark$$

$$118 + 118 + 118 + 118 + 118 = 590 \checkmark$$

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$$s_1, s_2, \dots \Rightarrow 1, 5, 9, \dots \Rightarrow a_n = 4n - 3 \Rightarrow \frac{1 \times 1}{1} - 1 = 0 \Rightarrow$$

$$1 + \sqrt{2}, 1 - \sqrt{2}, \dots \Rightarrow a_1 - a_2 = a_3 - a_4 \Rightarrow 1 - (1 + \sqrt{2}) = 2 - \sqrt{2} - 2$$

$$\Rightarrow 1 - \sqrt{2} = 1 - \sqrt{2} = d / a_{22} = a_1 + 21d, a_{25} = a_1 + 24d \Rightarrow a_{22} - a_{25} = a_1 + 21d - (a_1 + 24d) = -3d \Rightarrow -2 \times (1 - \sqrt{2}) = -2 + 2\sqrt{2} \checkmark$$

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$$a_n = a^{\frac{1}{n}}, a^{\frac{1}{2n}}, a^{\frac{1}{3n}} \Rightarrow a_2 - a_1 = a_3 - a_4 \Rightarrow (2 \times a^{\frac{1}{2}}) - (a^{\frac{1}{2}}) = (a^{\frac{1}{3}}) - (2a^{\frac{1}{3}})$$

$$a^{\frac{1}{2}}(2-1) = a^{\frac{1}{3}}(2-2) \Rightarrow (2 \times a^{\frac{1}{2}}) + (2 \times a^{\frac{1}{2}}) = a^{\frac{1}{3}} \Rightarrow a^{\frac{1}{2}}(4) = a^{\frac{1}{3}} \Rightarrow a = 1 \checkmark$$

$$a^{\frac{1}{2}} \Rightarrow y = 2x+1 / bn = x \cup y \Rightarrow 2-x = x-2 \Rightarrow 2-x = 2x-1 \Rightarrow 2=3x \Rightarrow x=1 \checkmark$$

$$\Rightarrow y = 2x+1 = 3 / x = 1 \times 3 = 3 \checkmark$$

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$$2x-2, 2x-1, 2x, \dots \Rightarrow 2(2x-1) = 2x-2 + 2x \Rightarrow 4x-2 = 4x-2 \Rightarrow 2=2x \Rightarrow$$

$$x = \frac{1}{2} / (2x-1) - 2 = -2 / (2x-1) = 0 / 2x = 2 \Rightarrow -\frac{2}{2} = -1 \checkmark$$

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$a_n = 2, 5, 7, 9, 11, 13, \dots \Rightarrow a_n = 2n - 1$ / $a_n = 2n - 1$ تا به باره شریک با $a_n = 2n - 1$
 $b_n = 2, 5, 8, 11, 14, \dots \Rightarrow b_n = 2n + 1$ / $a_n = 2n + 1$ تا به باره شریک با $a_n = 2n + 1$
 $(2 \times 2) + 1 = 5 \Rightarrow 2n + 1 = 5 \Rightarrow 2n = 4 \Rightarrow n = 2 \Rightarrow$ $\checkmark$ تا شریک
 $5, 11, 17, 23, 29, 35, 41$

$a_1 + a_2 + a_3 = 21 \Rightarrow a_1 + a_1 + d + a_1 + 2d = 3a_1 + 3d = 21 \Rightarrow a_1 + d = 7$
 $a_1 + a_2 + a_3 = 1 \cdot a \Rightarrow a_1 + a_1 + d + a_1 + 2d = 3a_1 + 3d = 1 \cdot a \Rightarrow a_1 + d = \frac{a}{3}$
 $\Rightarrow a_1 + d = 7, a_1 + 2d = 2a \Rightarrow d = 2a - 7 = 14 \Rightarrow a + 14 = 7 \Rightarrow a = -7$
 $-21 / a_2 - a_2 + a_1 = a_1 + d - a_1 - d + x_1 = a_1 + d = 7 \Rightarrow \frac{7}{-7} = -1 \checkmark$

$a_1 + a_2 + a_3 = 15 \Rightarrow a_1 + a_1 + d + a_1 + 2d = 3a_1 + 3d = 15 \Rightarrow a_1 + d = 5$
 $a_1 + a_3 = 20 \Rightarrow a_1 + d + a_1 + 2d = 2a_1 + 3d = 20 \Rightarrow 2a_1 + 3d = 20$
 $\Rightarrow d = 2 \Rightarrow a_1 + 2 = 5 \Rightarrow a_1 = 3 / a_1 = a_1 + 9d = 3 + (9 \times 2) = 21 \checkmark$

$S_9 = 9S_2 \Rightarrow \frac{9}{2} [2a_1 + 8d] = \frac{9}{2} \times [2a_1 + 2d] \Rightarrow 2a_1 + 8d = 2a_1 + 2d$
 $9a_1 + 9d \Rightarrow 9d = 2a_1 \Rightarrow d = \frac{2a_1}{9}$
 $\Rightarrow \frac{a_1}{a_1} = \frac{a_1 + 11d}{a_1 + 9d} = \frac{a_1 + 11 \times \frac{2a_1}{9}}{a_1 + 9 \times \frac{2a_1}{9}} = \frac{29}{17} \checkmark$

$a_1 = 11 / a_5 = 25 \Rightarrow d = \frac{a_5 - a_1}{5 - 1} = \frac{25 - 11}{4} = \frac{14}{4} = \frac{7}{2}$
 $25, 0, 0, 0, 0, \dots, 11 \Rightarrow d = \frac{a_5 - a_1}{5 - 1} = \frac{11 - 25}{4} = \frac{-14}{4} = -\frac{7}{2} \checkmark$
 $\checkmark$ تا شریک