

تکالیف: ۱۲

کتاب: ۱۹، ۲۵

تکالیف: ۱۲

$t_n = 5, 9, 13, 17, \dots$
 $\xrightarrow{+4} \xrightarrow{+4}$

$\varepsilon_0 + 12 \cdot 41$

ε_{n+1}

(الف) ۲

$t_n = 4, 10, 16, 22, \dots$

قانون اندیشها ۲امف ۲ای هند
 $\frac{S}{r} (a_1 + a_n) = 5 (4 + 41) = 240$
 $t_{41} = 4 + (41-1) \cdot 6 = 244$
 $t_1 + t_{41} = 4 + 244 = 248$
 $t_2 + t_{40} = 10 + 238 = 248$
 $t_3 + t_{39} = 16 + 232 = 248$
 $t_4 + t_{38} = 22 + 226 = 248$
 $t_5 + t_{37} = 28 + 220 = 248$
 $t_6 + t_{36} = 34 + 214 = 248$
 $t_7 + t_{35} = 40 + 208 = 248$
 $t_8 + t_{34} = 46 + 202 = 248$
 $t_9 + t_{33} = 52 + 196 = 248$
 $t_{10} + t_{32} = 58 + 190 = 248$
 $t_{11} + t_{31} = 64 + 184 = 248$
 $t_{12} + t_{30} = 70 + 178 = 248$
 $t_{13} + t_{29} = 76 + 172 = 248$
 $t_{14} + t_{28} = 82 + 166 = 248$
 $t_{15} + t_{27} = 88 + 160 = 248$
 $t_{16} + t_{26} = 94 + 154 = 248$
 $t_{17} + t_{25} = 100 + 148 = 248$
 $t_{18} + t_{24} = 106 + 142 = 248$
 $t_{19} + t_{23} = 112 + 136 = 248$
 $t_{20} + t_{22} = 118 + 130 = 248$
 $t_{21} + t_{21} = 124 + 124 = 248$
 $t_{22} + t_{20} = 130 + 118 = 248$
 $t_{23} + t_{19} = 136 + 112 = 248$
 $t_{24} + t_{18} = 142 + 106 = 248$
 $t_{25} + t_{17} = 148 + 100 = 248$
 $t_{26} + t_{16} = 154 + 94 = 248$
 $t_{27} + t_{15} = 160 + 88 = 248$
 $t_{28} + t_{14} = 166 + 82 = 248$
 $t_{29} + t_{13} = 172 + 76 = 248$
 $t_{30} + t_{12} = 178 + 70 = 248$
 $t_{31} + t_{11} = 184 + 64 = 248$
 $t_{32} + t_{10} = 190 + 58 = 248$
 $t_{33} + t_9 = 196 + 52 = 248$
 $t_{34} + t_8 = 202 + 46 = 248$
 $t_{35} + t_7 = 208 + 40 = 248$
 $t_{36} + t_6 = 214 + 34 = 248$
 $t_{37} + t_5 = 220 + 28 = 248$
 $t_{38} + t_4 = 226 + 22 = 248$
 $t_{39} + t_3 = 232 + 16 = 248$
 $t_{40} + t_2 = 238 + 10 = 248$
 $t_{41} + t_1 = 244 + 4 = 248$

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 (ب) ۱، ۲۵

$(t_1 + t_{41}) \cdot 2 = 2(4 + 244) = 492$

$1 + \sqrt{3}, 2, 1 - \sqrt{3}$
 $\xrightarrow{+1-\sqrt{3}}$

$t_{10} - t_{12} = 10 - 12 = -2 \Rightarrow d = 1 - \sqrt{3} \rightarrow r d = 2(1 - \sqrt{3})$

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$a_n = 2^x, 4^x, 8^x, \dots$
 $b_n = x, y \Rightarrow \frac{x+y}{2} = 2$
 $y = 2 - x \leftarrow x + y = 2$
 $x \cdot y = 2$

$\frac{2^x + 4^x}{2} = 2 \cdot 2^x$

$\frac{2^x + 2^{2x}}{2} = 2 \cdot 2^x \Rightarrow \frac{1 + 2^x}{2} = 2 \Rightarrow 1 + 2^x = 4 \Rightarrow 2^x = 3 \Rightarrow x = \log_2 3$

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$t_n = 1, 2, 3, \dots \Rightarrow -1, 0, 1, \dots$
 $\frac{1 \cdot 2 - 1}{2} = 1 - 1 = 0 \Rightarrow \varepsilon_n = 2n - 1$
 $x = \frac{1}{2}$

$a_n = 1, 2, 3, \dots$
 $t_n = 1, 2, 3, \dots$

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$a_n = 1, 2, 3, \dots$
 $b_n = 1, 2, 3, \dots$
 $c_n = 1, 2, 3, \dots$

دست‌ن

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$a_1 + a_2 + a_3 = 11$
 $a_1 + a_4 + a_5 = 10$
 $a_3 - a_2 + a_1 = \frac{10 - 11 - 1}{-1} = -\frac{2}{-1} = 2$

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$$\begin{aligned}
 & \left. \begin{aligned} a_1 + a_1^p + a_p &= 10 \\ a_1 + a_2 &= 20 \\ a_1 + a_p &= 10 \end{aligned} \right\} \Rightarrow \begin{aligned} 10a_1 + 10d &= 10 \\ 10a_1 + 10d &= 20 \end{aligned} \quad \begin{aligned} & \psi(a_1 + d = 10) \\ & \frac{10d}{d} = 10 \\ & d = 10 \end{aligned} \quad \begin{aligned} & 10 = a_1 + 9d = \\ & 10 + 90 = 100 \end{aligned}
 \end{aligned}$$

$$a_1 \neq 0 \quad S_9 = 9S_1$$

$$\frac{9}{1} \left(\frac{10a_1 + 10d}{1} \right) = 9 \left(\frac{10a_1 + 10d}{1} \right)$$

$$9(a_1 + 10d) = 9(10a_1 + 10d) \Rightarrow a_1 + 10d = 10a_1 + 10d$$

$$\frac{a_1}{a_1} = \frac{a_1 + 10d}{a_1 + 10d} = \frac{10a_1 + 10d}{10a_1 + 10d} = \frac{10a_1}{10a_1} = 1$$

$$a_1 = 11$$

$$a_1 = 11$$

$$a_1 + 10d = 100$$

$$11$$

$$d = 9$$

$$a_1 + 10d = 100$$

$$11 \quad 10$$

$$a_1 = 11 \quad d = 9$$

$$a_1 = 11 + 9d$$

$$11 = 11 + 9d$$

$$d = 0$$

$$11 = 11 + (n-1) \cdot 9$$

$$11 = 11 + 9 - 9n$$

$$-9n = -9$$

$$n = 1$$

$$\begin{array}{ccccccc}
 a_1 & \dots & a_n & \dots & a_p & & \\
 11 & & 11 & & 11 & &
 \end{array}$$