

نام و نام خانوادگی گروه شماره کلاس پاسخنانه تشریحی تکلیف شماره ۱/۱/۱

$$\begin{array}{ccccccc} \textcircled{1} & \textcircled{2} & \textcircled{3} & \dots & \textcircled{4} & \textcircled{9} & \textcircled{9} \\ 1^2 & 2^2 & 3^2 & \dots & 8^2 & 9^2 & \Rightarrow [48 \dots 81] \rightarrow \frac{48+81}{2} = \frac{129}{2} \end{array}$$

$$\begin{aligned} a_k &= \frac{1}{2} L_k, & a_1 &= 1 & L_1 &= 3 & \textcircled{1} & (121 + 363) \div 2 = 242 \div 2 = 121 \\ a_{k+1} &= L_{k+1} & a_2 &= 4 & L_2 &= 12 & \textcircled{2} \\ & & a_3 &= 13 & L_3 &= 39 & \textcircled{3} \\ & & a_4 &= 4 & L_4 &= 12 & \textcircled{4} \\ & & a_5 &= 121 & L_5 &= 363 & \textcircled{5} \end{aligned}$$

$$a = c + \gamma r \quad b = c + r \quad \frac{a/\gamma}{c/\gamma} = a \quad \frac{b}{a/\gamma} = a$$

$$(c + \gamma r)^\gamma = (c + r)c \Rightarrow c^\gamma + \gamma c r + \gamma r^\gamma = c^\gamma + c r$$

$$\gamma c r + \gamma r^\gamma = 0 \Rightarrow r(\gamma c + \gamma r) = 0 \quad \gamma c + \gamma r = 0 \Rightarrow r = -\frac{\gamma}{\gamma} c \Rightarrow$$

$$r \neq 0 \quad a = c + \gamma r = c - \frac{\gamma}{\gamma} c = -\frac{1}{\gamma} c \quad a = \frac{a/\gamma}{c/\gamma} = \frac{(-\frac{1}{\gamma} c)}{-\frac{1}{\gamma} c} = -1 \quad \boxed{-1}$$

$$a = c q^\gamma \quad b = c q$$

$$a^\gamma - c = b - a^\gamma \quad (c q^\gamma)^\gamma - c = (c q)^\gamma - (c q^\gamma)^\gamma$$

$$\cancel{(c q^\gamma)^\gamma} = \gamma c^\gamma q^\gamma - c^\gamma q^\gamma - c = 0$$

$$\frac{a q^\gamma}{a^\gamma q^\gamma} + \frac{a q}{a^\gamma} = \gamma \quad \frac{q^\gamma}{a^\gamma} + \frac{q}{a} = \frac{a q + q^\gamma}{a^\gamma} = \frac{a \gamma + q^\gamma}{a^\gamma} = \gamma$$

$$\frac{a \gamma}{a^\gamma} + \frac{q^\gamma}{a^\gamma} = \gamma \Rightarrow \frac{a \gamma}{a^\gamma} = \gamma - \frac{q^\gamma}{a^\gamma} \rightarrow \frac{a^\gamma}{a^\gamma} = \frac{1}{\gamma - \frac{q^\gamma}{a^\gamma}}$$

$$a \gamma = A r^\gamma \quad A r^\gamma = \sqrt{A r^\gamma} \quad a \gamma = A r^\gamma \quad A r = 1 \quad A > 0, r > 0$$

$$A = 1/r \quad a \gamma = A r^\gamma = \gamma \gamma \quad A = 1/\gamma \quad r^\gamma = \gamma \gamma \rightarrow r = \gamma$$

$$\frac{1}{\gamma} - A = \frac{1}{\gamma} - \frac{1}{\gamma} = \frac{1}{\gamma} \checkmark$$