

الف) عامی عمومی:

$a_n = a + (n-1)d = 14$ $a_1 = 14$ $a_{10} = 11$ $14 + 9d = 11$ $9d = 11 - 14 = -3$ $d = -\frac{3}{9} = -\frac{1}{3}$ $a_n = 14 + (n-1)(-\frac{1}{3})$ $a_n = 14 - \frac{n-1}{3}$ $a_n = \frac{42 - n + 1}{3}$ $a_n = \frac{43 - n}{3}$ $a_{10} = \frac{43 - 10}{3} = \frac{33}{3} = 11$ $a_{11} = \frac{43 - 11}{3} = \frac{32}{3}$ $a_{12} = \frac{43 - 12}{3} = \frac{31}{3}$ $a_{13} = \frac{43 - 13}{3} = \frac{30}{3} = 10$ $a_{14} = \frac{43 - 14}{3} = \frac{29}{3}$ $a_{15} = \frac{43 - 15}{3} = \frac{28}{3}$ $a_{16} = \frac{43 - 16}{3} = \frac{27}{3} = 9$ $a_{17} = \frac{43 - 17}{3} = \frac{26}{3}$ $a_{18} = \frac{43 - 18}{3} = \frac{25}{3}$ $a_{19} = \frac{43 - 19}{3} = \frac{24}{3} = 8$ $a_{20} = \frac{43 - 20}{3} = \frac{23}{3}$ $a_{21} = \frac{43 - 21}{3} = \frac{22}{3}$ $a_{22} = \frac{43 - 22}{3} = \frac{21}{3} = 7$ $a_{23} = \frac{43 - 23}{3} = \frac{20}{3}$ $a_{24} = \frac{43 - 24}{3} = \frac{19}{3}$ $a_{25} = \frac{43 - 25}{3} = \frac{18}{3} = 6$ $a_{26} = \frac{43 - 26}{3} = \frac{17}{3}$ $a_{27} = \frac{43 - 27}{3} = \frac{16}{3}$ $a_{28} = \frac{43 - 28}{3} = \frac{15}{3} = 5$ $a_{29} = \frac{43 - 29}{3} = \frac{14}{3}$ $a_{30} = \frac{43 - 30}{3} = \frac{13}{3}$ $a_{31} = \frac{43 - 31}{3} = \frac{12}{3} = 4$ $a_{32} = \frac{43 - 32}{3} = \frac{11}{3}$ $a_{33} = \frac{43 - 33}{3} = \frac{10}{3}$ $a_{34} = \frac{43 - 34}{3} = \frac{9}{3} = 3$ $a_{35} = \frac{43 - 35}{3} = \frac{8}{3}$ $a_{36} = \frac{43 - 36}{3} = \frac{7}{3}$ $a_{37} = \frac{43 - 37}{3} = \frac{6}{3} = 2$ $a_{38} = \frac{43 - 38}{3} = \frac{5}{3}$ $a_{39} = \frac{43 - 39}{3} = \frac{4}{3}$ $a_{40} = \frac{43 - 40}{3} = \frac{3}{3} = 1$ $a_{41} = \frac{43 - 41}{3} = \frac{2}{3}$ $a_{42} = \frac{43 - 42}{3} = \frac{1}{3}$ $a_{43} = \frac{43 - 43}{3} = \frac{0}{3} = 0$ $a_{44} = \frac{43 - 44}{3} = \frac{-1}{3}$ $a_{45} = \frac{43 - 45}{3} = \frac{-2}{3}$ $a_{46} = \frac{43 - 46}{3} = \frac{-3}{3} = -1$ $a_{47} = \frac{43 - 47}{3} = \frac{-4}{3}$ $a_{48} = \frac{43 - 48}{3} = \frac{-5}{3}$ $a_{49} = \frac{43 - 49}{3} = \frac{-6}{3} = -2$ $a_{50} = \frac{43 - 50}{3} = \frac{-7}{3}$ $a_{51} = \frac{43 - 51}{3} = \frac{-8}{3}$ $a_{52} = \frac{43 - 52}{3} = \frac{-9}{3} = -3$ $a_{53} = \frac{43 - 53}{3} = \frac{-10}{3}$ $a_{54} = \frac{43 - 54}{3} = \frac{-11}{3}$ $a_{55} = \frac{43 - 55}{3} = \frac{-12}{3} = -4$ $a_{56} = \frac{43 - 56}{3} = \frac{-13}{3}$ $a_{57} = \frac{43 - 57}{3} = \frac{-14}{3}$ $a_{58} = \frac{43 - 58}{3} = \frac{-15}{3} = -5$ $a_{59} = \frac{43 - 59}{3} = \frac{-16}{3}$ $a_{60} = \frac{43 - 60}{3} = \frac{-17}{3}$ $a_{61} = \frac{43 - 61}{3} = \frac{-18}{3} = -6$ $a_{62} = \frac{43 - 62}{3} = \frac{-19}{3}$ $a_{63} = \frac{43 - 63}{3} = \frac{-20}{3}$ $a_{64} = \frac{43 - 64}{3} = \frac{-21}{3} = -7$ $a_{65} = \frac{43 - 65}{3} = \frac{-22}{3}$ $a_{66} = \frac{43 - 66}{3} = \frac{-23}{3}$ $a_{67} = \frac{43 - 67}{3} = \frac{-24}{3} = -8$ $a_{68} = \frac{43 - 68}{3} = \frac{-25}{3}$ $a_{69} = \frac{43 - 69}{3} = \frac{-26}{3}$ $a_{70} = \frac{43 - 70}{3} = \frac{-27}{3} = -9$ $a_{71} = \frac{43 - 71}{3} = \frac{-28}{3}$ $a_{72} = \frac{43 - 72}{3} = \frac{-29}{3}$ $a_{73} = \frac{43 - 73}{3} = \frac{-30}{3} = -10$ $a_{74} = \frac{43 - 74}{3} = \frac{-31}{3}$ $a_{75} = \frac{43 - 75}{3} = \frac{-32}{3}$ $a_{76} = \frac{43 - 76}{3} = \frac{-33}{3} = -11$ $a_{77} = \frac{43 - 77}{3} = \frac{-34}{3}$ $a_{78} = \frac{43 - 78}{3} = \frac{-35}{3}$ $a_{79} = \frac{43 - 79}{3} = \frac{-36}{3} = -12$ $a_{80} = \frac{43 - 80}{3} = \frac{-37}{3}$ $a_{81} = \frac{43 - 81}{3} = \frac{-38}{3}$ $a_{82} = \frac{43 - 82}{3} = \frac{-39}{3} = -13$ $a_{83} = \frac{43 - 83}{3} = \frac{-40}{3}$ $a_{84} = \frac{43 - 84}{3} = \frac{-41}{3}$ $a_{85} = \frac{43 - 85}{3} = \frac{-42}{3} = -14$ $a_{86} = \frac{43 - 86}{3} = \frac{-43}{3}$ $a_{87} = \frac{43 - 87}{3} = \frac{-44}{3}$ $a_{88} = \frac{43 - 88}{3} = \frac{-45}{3} = -15$ $a_{89} = \frac{43 - 89}{3} = \frac{-46}{3}$ $a_{90} = \frac{43 - 90}{3} = \frac{-47}{3}$ $a_{91} = \frac{43 - 91}{3} = \frac{-48}{3} = -16$ $a_{92} = \frac{43 - 92}{3} = \frac{-49}{3}$ $a_{93} = \frac{43 - 93}{3} = \frac{-50}{3}$ $a_{94} = \frac{43 - 94}{3} = \frac{-51}{3} = -17$ $a_{95} = \frac{43 - 95}{3} = \frac{-52}{3}$ $a_{96} = \frac{43 - 96}{3} = \frac{-53}{3}$ $a_{97} = \frac{43 - 97}{3} = \frac{-54}{3} = -18$ $a_{98} = \frac{43 - 98}{3} = \frac{-55}{3}$ $a_{99} = \frac{43 - 99}{3} = \frac{-56}{3}$ $a_{100} = \frac{43 - 100}{3} = \frac{-57}{3} = -19$

$$\Rightarrow \frac{y_2 - y_1 \sqrt{t_2}}{y_2 - y_1 \sqrt{t_1}} = \frac{y_2 - y_1 \sqrt{t_2}}{y_2 - y_1 \sqrt{t_1}}$$

$$\Delta^y = \Gamma_x \Delta^{\Gamma_x} + \Gamma_x \Delta^{\Gamma_x} = \Delta^x \Delta^{\Gamma_x} = \Delta^{\Gamma_{x+1}} \Rightarrow \Delta^y = \Delta^{\Gamma_{x+1}} \Rightarrow y = \Gamma_{x+1}$$

$\underbrace{1 \times 1 - 4}_{14} = 4$ ← p/8518

$$d = 4 \text{ m}$$

$$a_p - a_v + a_i \Rightarrow \underbrace{V - \frac{F}{A}}_1 + \underbrace{(-gH)}_{-gH} = \boxed{-gH}$$

$$a_1 + a_2 + a_3 = 1d \Rightarrow a + a + d + a + 2d = 1d$$

$$a_5 + a_6 = 2d \Rightarrow a + 4d + a + 5d = 2d$$

$$\begin{cases} 3a + 3d = 1d \\ 2a + 9d = 2d \end{cases} \Rightarrow \begin{cases} -1d = -1d \Rightarrow 1d = 1 \Rightarrow d = 1 \\ 1d + 7d = 1d \end{cases}$$

$$nd = 1d$$

✓

$$a_n = a_1 + (n-1)d \Rightarrow 1n - 1$$

$$1 \times 10 - 1 = 9 \Rightarrow 9 \text{ terms}$$

$$S_9 = 9S_p \quad S_n = \frac{n}{2} (2a_1 + (n-1)d) \Rightarrow \frac{9}{2} (2a + 8d) = 9 \times \frac{p}{2} (2a + 2d)$$

(9)

$$\frac{a_p}{a_r}$$

$$a_p = a + 19d = a_1 + 19 \times \frac{1}{19} a = 2a$$

$$a_r = a + 9d = a_1 + \frac{1}{4} \times a = \frac{5}{4}a$$

$$\frac{2a}{\frac{5}{4}a} = \frac{8}{5}$$

$$\frac{9}{2} (2a + 8d) = \frac{9}{2} (2a + 2d)$$

$$2a + 8d = 2a + 2d$$

$$2a + 8d = 2a + 2d$$

$$2a + 8d - 2a - 2d = 0 \Rightarrow -6d = 0 \Rightarrow d = 0$$

$$a_1 = 11 \quad a_r = 2d$$

$$a + 9d = 2d \Rightarrow 9d = 2d$$

$$d = 0$$

$$a_5 = a + 4d = 11 + 0 = 11$$

$$b + 12d = 11 + 12 \left(\frac{-11}{k+1} \right) = 11 \Rightarrow \frac{-11}{k+1} = -1$$

$$k+1 = 11 \Rightarrow k = 10$$

$$-11 = -11k - 11$$

$$-9 = -11k \Rightarrow k = 10$$

$$d = \frac{b-a}{k+1} \Rightarrow \frac{11-11}{11} = \frac{-11}{11} = -1$$