

$$n^r - 9n + 2 \Rightarrow 9 - 18 + 2 = \textcircled{-7}$$

$$-\frac{b}{r_a} = \frac{9}{r} = 9$$

6

$$n^r + 8n + 1 \Rightarrow 8 - 18 + 1 = \textcircled{-9}$$

$$-\frac{b}{r_a} = \frac{-8}{r} = -8$$

$$t_n = -f, -v, -1, -v, -f$$

$$\begin{array}{ccccc} \underbrace{-f}_{-0} & \underbrace{-v}_{-r} & \underbrace{-1}_{-1} & \underbrace{-v}_{+1} & \underbrace{-f}_{+9} \\ & \underbrace{\phantom{-f}}_{+r} & \underbrace{\phantom{-v}}_{+r} & \underbrace{\phantom{-1}}_{+r} & \underbrace{\phantom{-v}}_{+r} \end{array}$$

$$a = 1$$

$$c = 1$$

$$b = -9$$

$$x^r - 9x + 1 \Rightarrow t_1 = 100 - 90 + 1 = \textcircled{11}$$

7

$$t_n = -9, -1, 8, 2$$

$$\begin{array}{cccc} \underbrace{-9}_{+1} & \underbrace{-1}_{+9} & \underbrace{8}_{+7} & \underbrace{2}_{+19} \\ & \underbrace{\phantom{-9}}_{+4} & \underbrace{\phantom{-1}}_{+6} & \underbrace{\phantom{8}}_{+8} \end{array}$$

$$a = 7$$

$$c = -7$$

$$b = -1$$

$$2x^r - x - 7$$

8

$$a + f \leq r_a + 1 \Rightarrow r \leq a \Rightarrow [r, \infty)$$

9

$$a \leq 99 \Rightarrow \frac{99 - 9}{9} + 1 = \textcircled{10} \text{ عدد}$$

$$b \leq 90 \Rightarrow \frac{90 - 0}{9} + 1 = 11 \text{ عدد}$$

$$c \leq 91 \Rightarrow \frac{91 - 10}{10} + 1 = 9 \text{ عدد}$$

$$n(A) + n(B) - n(A \cap B) \Rightarrow 100 + 19 - 9 = 110$$

(الف)

(ب)

(ج) 10

(د)

$$r_n^r - 1 = t_1) 2 \quad t_2) 11 \quad t_3) 29 \quad t_4) 47 \quad t_5) 74$$

$$\frac{r_{n+1}}{n+r} = t_1) \frac{3}{5} \quad t_2) \frac{5}{9} \quad t_3) \frac{7}{11} = 1 \quad t_4) \frac{9}{13} \quad t_5) \frac{11}{15}$$

$$\frac{(-1)^n}{\sqrt{n+r}} \Rightarrow t_{13} = \frac{(-1)^{13}}{\sqrt{19}} = \left( \frac{-1}{\sqrt{19}} \right)$$

$$t_n = r_n - \left[ \frac{n}{f} \right] \Rightarrow 24 - \left[ \frac{13}{4} \right] = 23 \Rightarrow (23)$$

$$a) t_n = r_n - 1. \Rightarrow r_n - 1 < 0 \Rightarrow r_n < 1 \Rightarrow n < 5 \Rightarrow \text{جواب ۴}$$

$$b) t_n = r_n^r - 1/n + f. \Rightarrow (n-10)(n-4) < 0 \quad \begin{array}{c|c|c|c} & 4 & 10 & \\ \hline P(x) & + & - & + \end{array} \Rightarrow 0.9789 \Rightarrow \text{جواب ۵}$$

$$c) r_n - 19 \Rightarrow r_n - 19 \leq 0 \Rightarrow r_n \leq 19 \Rightarrow n \leq 8 \Rightarrow \text{جواب ۸}$$

$$d) r_n^r - 12n + 27 \Rightarrow (n-4)(n-9) \leq 0 \Rightarrow \begin{array}{c|c|c|c|c} & 4 & 9 & & \\ \hline P(x) & + & - & + & + \end{array} \Rightarrow \text{جواب ۷}$$

$$t_f = f_a + b = 7 \quad t_a = 9a + b = 25 \Rightarrow \begin{cases} a = 3 \\ b = -5 \end{cases}$$

$$t_c = 2a + b \Rightarrow 9 + (-5) = 4$$