

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۱... کلاس: دبیر: B

الف) $x^2 - 6x + 8 = 0 \Rightarrow (x-3)^2 - 1 = 0 \Rightarrow (x-3)^2 = 1 \Rightarrow x-3 = \pm 1 \Rightarrow \begin{cases} x=4 \\ x=2 \end{cases}$ ✓ ب) $x^2 + 4x + 7 = 0 \Rightarrow (x+2)^2 - 9 = 0 \Rightarrow (x+2)^2 = 9 \Rightarrow x+2 = \pm 3 \Rightarrow \begin{cases} x=1 \\ x=-5 \end{cases}$ ✓	۱
الف) $x^2 - 5x + 6 = 0 \Rightarrow x^2 - 5x + 6 = 0 \Rightarrow (x-2)(x-3) = 0 \Rightarrow \begin{cases} x=2 \\ x=3 \end{cases}$ ✓ ب) $x^2 - 6x + 12 = 0 \Rightarrow x^2 - 6x + 9 = 0 \Rightarrow (x-3)^2 = 0 \Rightarrow x=3$ ✓	۲
الف) $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \Rightarrow \frac{3 \pm \sqrt{9-12}}{2} \Rightarrow \begin{cases} \frac{3-\sqrt{3}}{2} \\ \frac{3+\sqrt{3}}{2} \end{cases}$ ✓ ب) $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \Rightarrow \frac{4 \pm \sqrt{16-12}}{2} \Rightarrow \begin{cases} \frac{4+\sqrt{4}}{2} \\ \frac{4-\sqrt{4}}{2} \end{cases} \Rightarrow \begin{cases} 3 \\ 1 \end{cases}$ ✓	۳
الف) $x^2 - 3x + 2 = 0 \Rightarrow (x-1)(x-2) = 0 \Rightarrow \begin{cases} x=1 \\ x=2 \end{cases}$ ✓ ب) $4x^2 + x - 3 = 0 \Rightarrow x^2 + \frac{1}{4}x - \frac{3}{4} = 0 \Rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \Rightarrow \frac{-1 \pm \sqrt{1+12}}{2} \Rightarrow \begin{cases} \frac{-1+4}{2} = \frac{3}{2} \\ \frac{-1-4}{2} = -\frac{5}{2} \end{cases}$ ✓	۴
الف) $dx^2 - 12x + 17 = 0 \Rightarrow x^2 - 12x + 36 = 0 \Rightarrow (x-6)^2 = 0 \Rightarrow x=6$ ✓ ب) $3x^2 - 10x + 7 = 0 \Rightarrow x^2 - 10x + 21 = 0 \Rightarrow (x-3)(x-7) = 0 \Rightarrow \begin{cases} x=3 \rightarrow \frac{3}{12} = \frac{1}{4} \\ x=7 \rightarrow \frac{7}{12} \end{cases}$ ✓	۵

الف) $\Delta = b^2 - 4ac \Rightarrow 25 - 12 \Rightarrow \Delta > 0 \Rightarrow \hat{x}_{1,2}$ ✓

$\Delta = b^2 - 4ac \Rightarrow 1 - 16 \Rightarrow \Delta < 0 \Rightarrow$ لا يوجد حلا ✓

۷) $\Delta = b^2 - 4ac \Rightarrow 16 - 16 \Rightarrow \Delta = 0 \Rightarrow$ یک ریشه متفاوت دارد ✓

$$\Rightarrow \Delta = b^r - f_{ac} \Rightarrow \cancel{1}^{\cdot v} \cdot X \Rightarrow \Delta < 0 \Rightarrow \text{مستقر} \quad \checkmark$$

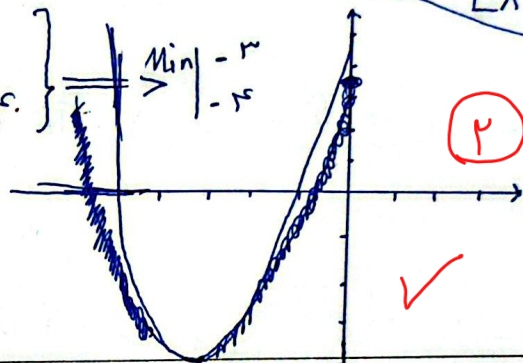
الف) $\Delta = b^2 - 4ac > 0 \Rightarrow 9 - 4a > 0 \Rightarrow 9 > 4a \Rightarrow \frac{9}{4} > a$

~~1.)~~ $\mathcal{L}_{\text{total}} \Rightarrow \Delta = b^2 \cdot \kappa_{ac} = 0 \Rightarrow q \cdot \Lambda_a = 0 \Rightarrow q = \Lambda_a \Rightarrow \frac{q}{\Lambda} = a$ ~~$a \in \mathbb{R} \left(\frac{q}{\Lambda}, \infty \right)$~~

✓ باید دلتا منفی باشد $\Rightarrow \Delta = b^2 - 4ac < 0 \Rightarrow 9 - 4a < 0 \Rightarrow 9 < 4a \Rightarrow \frac{9}{4} < a$

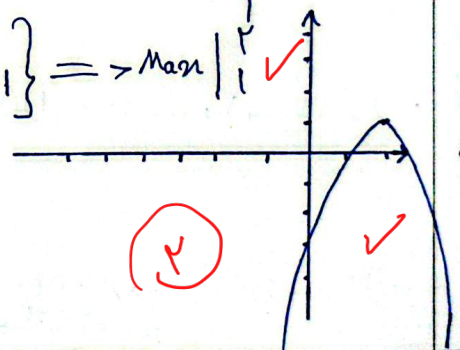
5) اجتماع دلتا ونسبت $\Delta = b^2 - 4ac \geq 0 \Rightarrow 9 - 12a \geq 0 \Rightarrow 9 \geq 12a \Rightarrow \frac{9}{12} \geq a \Rightarrow \frac{3}{4} \geq a$

الف) $\text{Min} \left| \frac{-b}{r_a} \Rightarrow \frac{-f}{r} = -r \right.$
 $\frac{-\Delta}{r_a} \Rightarrow -\frac{b-r_a c}{r_a} \Rightarrow -\frac{r_f - r}{r} = -$ ✓



الف) Max $\left\{ \begin{aligned} \frac{b}{r_a} &= \frac{-r}{-r} = r \\ -\frac{\Delta}{r_a} &= \frac{b \cdot r_{ac}}{r_a} = \frac{12 \cdot 12}{-r} = -\frac{r}{-r} = +1 \end{aligned} \right\}$

$$\therefore x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-7 \pm \sqrt{49 - 12}}{-2} = \begin{cases} x = 4 \\ x = -1 \end{cases} \quad \checkmark$$



$$S = \frac{-b}{a} = -4$$

$$\rho = \frac{c}{a} = -4$$

الف) $9 - (-4) = 13$ ✓

$$\rightarrow 4V + 1A = 10 \quad \checkmark$$