

الف) $x^2 - 6x + 9 = 1$
 $(x - 3)^2 = 1$
 $x - 3 = \sqrt{1} \Rightarrow x = 2, x = 4$

ب) $x^2 + 8x + 16 = 9$
 $(x + 4)^2 = 9$
 $x + 4 = \sqrt{9} \Rightarrow x = -1, x = -7$

الف) $(x - 2)(x - 3) = 0 \Rightarrow x = 2, x = 3$

ب) $(x - 7)(x + 2) = 0 \Rightarrow x = 7, x = -2$

الف) $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{3 \pm \sqrt{9 - 10}}{2} = \frac{3 \pm \sqrt{-1}}{2}$

ب) $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{5 \pm \sqrt{25 - 4}}{2} = \frac{5 \pm \sqrt{21}}{2}$

$\sqrt{12} = 2\sqrt{3}$

الف) $(x - 1)(x - 2) = 0 \Rightarrow x = 1, x = 2$

ب) $x^2 + x - 11 = 0$
 $(x + 5)(x - 4) = 0 \Rightarrow x = -5, x = 4$

الف) $x^2 - 12x + 36 = 0$
 $(x - 6)(x - 6) = 0 \Rightarrow x = 6, x = 6$

ب) $x^2 - 10x + 21 = 0$
 $(x - 7)(x - 3) = 0 \Rightarrow x = 7, x = 3$

$$\text{الف) } b^2 - 4ac = \sqrt{2a - 12} = \sqrt{14} \rightarrow \text{در دو نقطه می‌تواند}$$

$$\text{ب) } \sqrt{b^2 - 4ac} = \sqrt{1 - 14} \rightarrow \text{ریشه ندارد}$$

$$\text{ج) } \sqrt{14 - 14} = \sqrt{0} \rightarrow \text{یک ریشه}$$

$$\text{د) } \sqrt{1 - 1} \rightarrow \text{ندارد}$$

$$\text{الف) } b^2 - 4ac = 9 - 12a \rightarrow 9 - 12a > 0$$

$$-12a > -9$$

$$12a < 9$$

$$a < \frac{3}{4}$$

$$\text{ج) } 9 - 12a < 0$$

$$-12a < -9$$

$$12a > 9$$

$$a > \frac{3}{4}$$

$$\text{ب) } 9 - 12a = 0$$

$$-12a = -9$$

$$a = \frac{3}{4}$$

$$\text{د) } 9 - 12a > 0$$

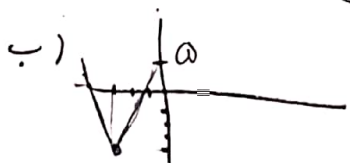
$$-12a > -9$$

$$12a < 9$$

$$a < \frac{3}{4}$$

$$\text{الف) } \min_{\text{Ent}} \left| \frac{-b}{2a} \right| \Rightarrow \left| \frac{-4}{2} \right| = -14$$

$$- \frac{14}{2} = -7$$



$$\text{الف) } \max_{\text{Ent}} \left| \frac{-b}{2a} \right| \Rightarrow \left| \frac{-4}{-2} \right| = 2$$

$$\Rightarrow \left| \frac{2}{1} \right| = 2$$



$$\text{ب) } n^2 + 4n + 4 = 0$$

$$(n+1)(n+3) = 0 \rightarrow \left\{ \begin{array}{l} n = -1 \\ n = -3 \end{array} \right\}$$

در این نقاط قطع می‌شود

$$\text{الف) } 9 - 12a = 14$$

$$\text{ب) } 4V = 12 \left(\frac{1}{2} \right) (-2) = -12$$