

الف) $x^2 - 6x + 9 = 1$

$(x - 3)^2 = 1$

$x - 3 = \sqrt{1} \Rightarrow x = 2 \text{ و } x = 4$

ب) $x^2 + 8x + 16 = 9$

$(x + 4)^2 = 9$

$x + 4 = \sqrt{9} \Rightarrow x = -1$
 $x = -7$

✓

الف) $(x - 2)(x - 3) = 0 \Rightarrow x = 2 \text{ و } x = 3$

ب) $(x - 7)(x + 2) = 0 \Rightarrow x = 7 \text{ و } x = -2$

✓

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

ب) $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{4 \pm \sqrt{16 - 4}}{4} = \frac{4 \pm \sqrt{12}}{4} = \frac{1 \pm \sqrt{3}}{1}$

✓

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

الف) $(x - 1)(x - 2) = 0 \Rightarrow x = 1 \text{ و } x = 2$

ب) $x^2 + x - 11 = 0$

$(x + 4)(x - 4) = 0 \Rightarrow x = -\frac{4}{1} \text{ و } x = \frac{4}{1}$

✓

الف) $x^2 - 12x + 36 = 0$

$(x - 6)(x - 6) = 0 \Rightarrow x = \frac{6}{1} \text{ و } x = \frac{6}{1}$

ب) $x^2 - 10x + 21 = 0$

$(x - 7)(x - 3) = 0 \Rightarrow x = \frac{7}{1} \text{ و } x = \frac{3}{1}$

✓

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

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

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

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

✓

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

$$-12a > -9$$

$$12a < 9$$

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

$$\text{ج) } 9 - 12a < 0$$

$$-12a < -9$$

$$12a > 9$$

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

$$\text{ب) } 9 - 12a = 0$$

$$-12a = -9$$

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

✓

$$\text{د) } 9 - 12a > 0$$

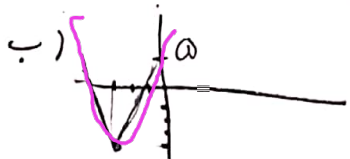
$$-12a > -9$$

$$12a < 9$$

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

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

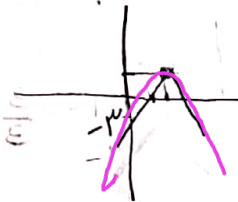
$$- \frac{14}{2} = -7$$



✓

$$\text{الف) } \max_{\text{Ent}} \left| \frac{-b}{2a} \right| \Rightarrow \left| \frac{-2}{-1} \right| = 2$$

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



$$\text{ب) } n^2 + 2n + 2 = 0$$

$$(n+1)(n+2) = 0 \rightarrow n = -1 \text{ و } n = -2$$

✓

$$\text{الف) } 9 - x(-2) = 14$$

$$\text{ب) } 4V = 2(x+1)(-2) = -4(x+1)$$

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