

الف) $x^2 - 4x + 9 - 1 = 0 \Rightarrow (x-3)^2 = 1 \Rightarrow |x-3| = 1 \rightarrow x=4$
 $\rightarrow x=2$

ب) $x^2 + 11x + 14 - 4 = 0 \Rightarrow (x+4)^2 = 9 \Rightarrow |x+4| = 3 \rightarrow x=-1$
 $\rightarrow x=-7$

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

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

الف) $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \Rightarrow \frac{3 \pm \sqrt{9 - 12}}{2} \rightarrow x = \frac{3 + \sqrt{-3}}{2}$
 $\rightarrow x = \frac{3 - \sqrt{-3}}{2}$

ب) $\frac{+4 \pm \sqrt{14 - 4}}{2} \rightarrow x = \frac{4 + \sqrt{10}}{2}$
 $\rightarrow x = \frac{4 - \sqrt{10}}{2}$

الف) $\boxed{1} \leftarrow a+c+b=0$
 $\rightarrow \frac{c}{a} = \frac{1}{1} = \boxed{1}$

ب) $\boxed{-1} \leftarrow a+c=b$
 $\rightarrow -\frac{c}{a} = -\frac{1}{1} = \boxed{-1}$

الف) $x^2 - 12x + 35 = 0 \Rightarrow (x-5)(x-7) \Rightarrow x=5, x=7 \Rightarrow x = \frac{5}{2} = 1, x = \frac{7}{2}$

ب) $x^2 - 10x + 21 = 0 \Rightarrow (x-3)(x-7) \Rightarrow x=3, x=7 \Rightarrow x = \frac{3}{2} = 1, x = \frac{7}{2}$

الف) $\Delta \rightarrow b^2 - 4ac \Rightarrow 25 - 12 = 13 \Rightarrow$ جواب ۲
 $(-12 - 4)(2)(2) = -16$

ب) $\Delta \rightarrow 1 + 14 \Rightarrow 15 \Rightarrow$ جواب ۲
 جواب ندارد

ب) $\Delta \rightarrow 14 - 14 = 0 \Rightarrow$ جواب دارد

ب) $\Delta \rightarrow 1 - 14 = -13 \rightarrow$ جواب ندارد

الف) $\Delta > 0 \Rightarrow 9 - 4a > 0 \Rightarrow 4a < 9 \Rightarrow a < \frac{9}{4}$

ب) $\Delta = 0 \Rightarrow 9 - 4a = 0 \Rightarrow 4a = 9 \Rightarrow a = \frac{9}{4}$

ج) $\Delta < 0 \Rightarrow 9 - 4a < 0 \Rightarrow 4a > 9 \Rightarrow a > \frac{9}{4}$

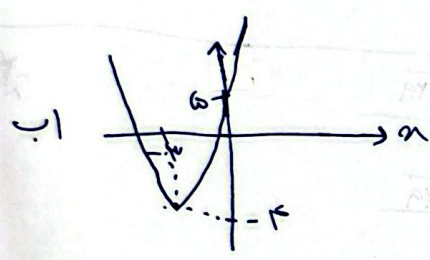
د) $\Delta > 0 \Rightarrow 9 - 4a > 0 \Rightarrow 4a < 9 \Rightarrow a < \frac{9}{4}$

✓

الف) $a > 0 \mid -\frac{b}{2a} \Rightarrow -\frac{4}{2} = -2$

$a > 0 \Rightarrow \text{Min}$

الف) $y \rightarrow 9 - 4x + a = -2 \Rightarrow y = -4$



$x = 0 \Rightarrow y = +2$

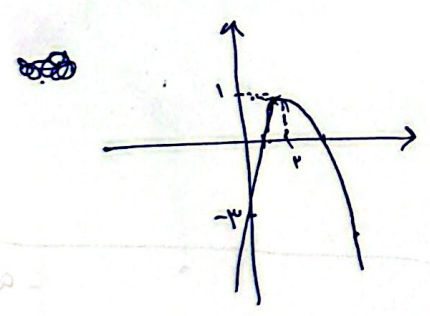
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الف) $x = -\frac{b}{2a} = \frac{-4}{-2} = 2$

$\Rightarrow A = \begin{bmatrix} 2 \\ 1 \end{bmatrix}$

$a < 0 \Rightarrow \text{Max}$

$y = -4 + 1 - 2 = -5$



$x = 0 \Rightarrow y = -4$

✓

$y = 0 \rightarrow x^2 - 4x - 4 = 0 \Rightarrow x^2 - 4x + 4 = 0 \Rightarrow (x-2)^2 = 0 \Rightarrow x = 2$

$S = -\frac{b}{2a} = 2$

الف) $9 + 4 = 13$

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

ب) $2V + 1A = 4$

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