

الف) $x^2 - 6x + 9 = 0 \rightarrow x^2 - 6x + 9 = 1 \rightarrow (x-3)^2 = 1 \rightarrow x-3 = \pm 1 \Rightarrow \begin{cases} x=4 \\ x=2 \end{cases}$
 $(+1) (+1)$
 $\sqrt{(x-3)^2} = \sqrt{1}$

ب) $x^2 + 8x + 7 = 0 \rightarrow x^2 + 8x + 16 = 9 \rightarrow \sqrt{(x+4)^2} = \sqrt{9} \rightarrow x+4 = \pm 3$
 $(+4) (+4)$
 $\begin{cases} x=-1 \\ x=-7 \end{cases}$
 (2) ✓

الف) $x^2 - 5x + 6 = 0 \rightarrow (x-2)(x-3) = 0 \rightarrow \begin{cases} x=3 \\ x=2 \end{cases}$

ب) $x^2 - 5x - 14 = 0 \rightarrow (x-7)(x+2) = 0 \rightarrow \begin{cases} x=7 \\ x=-2 \end{cases}$
 (2) ✓

الف) $x = \frac{3 \pm \sqrt{9 - 4(1)(-5)}}{2} \rightarrow x = \frac{3 \pm \sqrt{29}}{2}$

$x = \frac{-b \pm \sqrt{\Delta}}{2a}$
 $(b^2 - 4ac)$

ب) $x = \frac{f \pm \sqrt{14 - 4(1)(\frac{1}{4})}}{f} \rightarrow x = \frac{f \pm \sqrt{13}}{f}$

(2) ✓

الف) $(x-2)(x-1) = 0 \rightarrow \begin{cases} x=1 \\ x=2 \end{cases}$

ب) $x = \frac{-1 \pm \sqrt{49}}{1} \rightarrow \frac{-1 \pm 7}{1} \rightarrow \begin{cases} x = \frac{3}{f} \\ x = -1 \end{cases}$

(2) ✓

الف) $5x^2 - 12x + 7 = 0 \rightarrow x^2 - 12x + 35 = 0 \rightarrow (x-5)(x-7) = 0 \rightarrow \begin{cases} x = \frac{5}{5} \\ x = \frac{7}{5} = 1 \end{cases}$
 $\underbrace{5x^2 - 12x + 7}_x$

(2) ✓

ب) $3x^2 - 10x + 7 = 0 \rightarrow x^2 - 10x + 21 = 0 \rightarrow (x-7)(x-3) = 0 \rightarrow \begin{cases} x = \frac{7}{3} \\ x = \frac{3}{3} = 1 \end{cases}$
 $\underbrace{3x^2 - 10x + 7}_x$

الف) $\Delta = 25 - 12 = 13 \rightarrow 13 > 0$ ((دو ریشه حقیقی)) $\Delta > 0$ $\Delta = b^2 - 4ac$

ب) $\Delta = 1 - 14 = -13 \rightarrow -13 < 0$ ((بدون ریشه حقیقی)) $\Delta < 0$

ج) $\Delta = 14 - 14 = 0$ ((یک ریشه حقیقی)) $\Delta = 0$

ت) $\Delta = 1 - 8 = -7 \rightarrow -7 < 0$ ((بدون ریشه حقیقی)) $\Delta < 0$ (۲) ✓

$\Delta = (-3)^2 - 4(2)(a) = 9 - 8a$

الف) $9 - 8a > 0 \rightarrow 8a < 9 \rightarrow a < \frac{9}{8}$

ب) $9 - 8a = 0 \rightarrow a = \frac{9}{8}$ (۲) ✓

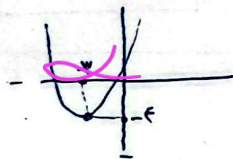
ج) $a > \frac{9}{8} \leftarrow 9 - 8a < 0 \leftarrow -8a < -9 \leftarrow a > \frac{9}{8}$

د) $\Delta \geq 0 \rightarrow a \leq \frac{9}{8}$

الف) $x = \frac{b}{2a} \rightarrow -\frac{6}{2} = -3$ $[-\frac{3}{4}]$

$y = (-3)^2 + 6(-3) + 5 = 9 - 18 + 5 = -4$

ب)



۱, ۷, ۵

min

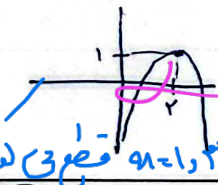
برای از پیدا کردن

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

$y = 1$

$[2]$

ب)



۱, ۷, ۵

$-\frac{x^2}{4} + 4x - 3$
max

محور ها را در نقاط

$S = \frac{b}{a} = 3$
 $\hookrightarrow \frac{3}{1} = 3$

$P = \frac{c}{a} = -2$
 $\hookrightarrow \frac{-2}{1} = -2$

$\frac{1}{a}x^2 - \frac{3}{b}x - \frac{2}{c} = 0$

الف) $3^2 + 4 \rightarrow 9 + 4 = 13$

ب) $3^2 + 11 = 20$ ۴, ۵

۱, ۷, ۵