

$$\begin{aligned}
 \text{الف} &= x^2 - 6x + 8 = 0 \xrightarrow{+1} x^2 - 6x + 9 = 1 \\
 (x-3)^2 &= 1 \\
 x-3 &= \pm 1 \\
 \begin{cases} x-3=1 \rightarrow x=4 \\ x-3=-1 \rightarrow x=2 \end{cases}
 \end{aligned}$$

$$\begin{aligned}
 \text{ب} &= x^2 + 18x + 7 = 0 \xrightarrow{+9} x^2 + 18x + 81 = 72 \\
 (x+9)^2 &= 72 \\
 x+9 &= \pm \sqrt{72} \\
 \begin{cases} x+9=3 \rightarrow x=-12 \\ x+9=-3 \rightarrow x=-12 \end{cases}
 \end{aligned}$$

$$\begin{aligned}
 \text{الف} &= x^2 - 6x + 9 = 0 \\
 (x-3)^2 &= 0 \\
 x &= 3
 \end{aligned}$$

$$\begin{aligned}
 \text{ب} &= x^2 - 6x - 14 = 0 \\
 (x-3)^2 &= 25 \\
 x-3 &= \pm 5 \\
 \begin{cases} x-3=5 \rightarrow x=8 \\ x-3=-5 \rightarrow x=-2 \end{cases}
 \end{aligned}$$

$$\begin{aligned}
 \text{الف} &= x^2 - 2x - 15 = 0 \\
 \frac{2 \pm \sqrt{4 + 60}}{2} &= \frac{2 \pm \sqrt{64}}{2} \\
 x &= 5, -3
 \end{aligned}$$

$$\begin{aligned}
 \text{ب} &= 2x^2 - 3x + 1 = 0 \\
 \frac{3 \pm \sqrt{9 - 8}}{4} &= \frac{3 \pm 1}{4} \\
 x &= 1, \frac{1}{2}
 \end{aligned}$$

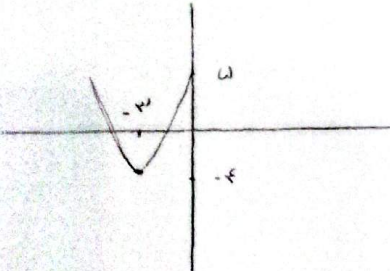
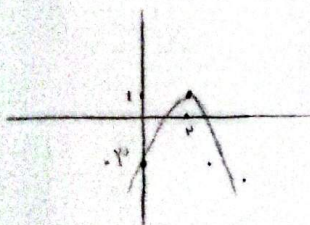
$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\begin{aligned}
 x^2 - 2x + 1 &= 0 \\
 a+b+c &= 0 \\
 x &= 1
 \end{aligned}$$

$$\begin{aligned}
 4x^2 + x - 2 &= 0 \\
 x^2 + x - 1 &= 0 \\
 (x+2)(x-1) &= 0 \\
 x &= -2, 1
 \end{aligned}$$

$$\begin{aligned}
 \text{الف} &: 12x^2 - 12x + 7 = 0 \\
 x^2 - 12x + 7 &= 0 \\
 (x-6)^2 &= 35 \\
 x &= 6 \pm \sqrt{35}
 \end{aligned}$$

$$\begin{aligned}
 \text{ب} &= 2x^2 - 10x + 7 = 0 \\
 x^2 - 5x + 3.5 &= 0 \\
 (x-1)(x-4) &= 0 \\
 x &= 1, 4
 \end{aligned}$$

$\frac{-6 \pm \sqrt{36 - 12}}{-4} = \frac{-6 \pm \sqrt{24}}{-4}$ $\frac{1 \pm \sqrt{1 - 16}}{4}$ $\frac{4 \pm \sqrt{16 \cdot 16}}{4} = 1$	$\frac{1 \pm \sqrt{1 - 16}}{4}$	الف ب ج د	۶
$\frac{9 \pm \sqrt{9 - 4a}}{4}$	$9 - 4a > 0 \quad a < \frac{9}{4}$ $9 - 4a = 0 \quad a = \frac{9}{4}$ $9 - 4a < 0 \quad a > \frac{9}{4}$ $9 - 4a \geq 0 \quad a \leq \frac{9}{4}$	الف) $\Delta > 0$ ب) $\Delta = 0$ ج) $\Delta < 0$ د) $\Delta \geq 0$	۷
	$x_{min} = -\frac{b}{2a} = -\frac{-4}{2} = -2$	الف	۸
	$x_{max} = -\frac{b}{2a} = -\frac{-4}{2} = 2$ $-x^2 + 4x - 3 = 0$ $x^2 - 4x + 3 = 0$ $(x+1)(x+3) = 0$	الف ب	۹
$S = \frac{-b}{a} = \frac{3}{1} = 3$ $P = \frac{c}{a} = \frac{-3}{1} = -3$	$x = 1$		۱۰
$9 + 4 = 13$ $27 + 18 = 45$			