

الف) $x^2 - 4x + 4 = 0$
 $x^2 - 4x + 4 = 0$
 $(x-2)^2 = 0$
 $x-2 = 0$
 $x = 2$

ب) $x^2 + 8x + 16 = 0$
 $x^2 + 8x + 16 = 0$
 $(x+4)^2 = 0$
 $x+4 = 0$
 $x = -4$

الف) $(x-2)(x-3) = 0$
 $x = 2$
 $x = 3$

ب) $(x-7)(x+2) = 0$
 $x = 7$
 $x = -2$

الف) $x^2 - 3x - 4 = 0$
 $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \rightarrow \frac{3 \pm \sqrt{9 + 16}}{2} \rightarrow \frac{3 + \sqrt{25}}{2}, \frac{3 - \sqrt{25}}{2}$

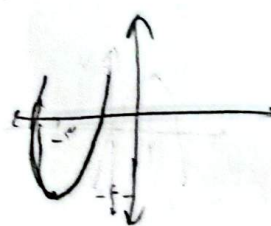
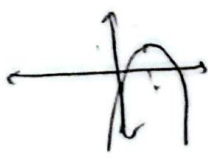
ب) $\frac{4 \pm \sqrt{16 - 4}}{4} \rightarrow \frac{4 - \sqrt{12}}{4}, \frac{4 + \sqrt{12}}{4}$

الف) $(x-1)(x-2) = 0$
 $x = 1$
 $x = 2$

ب) $\frac{-1 \pm \sqrt{1 + 4}}{1} \rightarrow \frac{1}{2} = \frac{3}{4}, \frac{-1}{1} = -1$

الف) $x^2 - 12x + 36 = 0$
 $x^2 - 12x + 36 = 0$
 $(x-6)(x-6) = 0 \rightarrow x = 6 \div 6 = 1, x = 6 \div 6 = 1$

ب) $3x^2 - 10x + 1 = 0$
 $3x^2 - 10x + 1 = 0$
 $(x-7)(x-5) = 0$
 $x = 7 \div 3 = \frac{7}{3}, x = 5 \div 3 = \frac{5}{3}$

$\frac{-2 \pm \sqrt{40+12}}{-4} \rightarrow$ $x^2 - 3x + 2 = 12$ (+) است $\Rightarrow$ ۱۰، ۱۴ ضیق متناهی	$\frac{4 \pm \sqrt{16-12}}{4} \rightarrow$ در صورت طاری یک شبه صاف است	۶
$\frac{1 \pm \sqrt{1-12}}{4} \rightarrow$ $4 \times 1 \times 1 = 12$ (-) است $\Rightarrow$ جواب ندارد	$\frac{1 \pm \sqrt{1-1}}{4} \rightarrow$ در صورت است جواب ندارد	
$2x^2 - 3x + a = 0$ $\frac{3 \pm \sqrt{9-12a}}{4}$ $a=1$ $a \leq 1$ $\{a \in \mathbb{R} \mid a \leq 1\}$	$2x^2 - 3x + a = 0$ $\frac{3 \pm \sqrt{9-12a}}{4}$ $a > 1$ $\{a \in \mathbb{R} \mid a > 1\}$	۷
$2x^2 - 3x + a = 0$ $\frac{3 \pm \sqrt{9-12a}}{4}$ $4-12a=9$ $a = \frac{9}{12}$	$2x^2 - 3x + a = 0$ $\frac{3 \pm \sqrt{9-12a}}{4}$ $a = \frac{9}{12}$	
$y = x^2 + 4x + 9$ Min $\left \begin{array}{l} -\frac{b}{2a} \rightarrow -\frac{4}{2} = -2 \\ -\frac{\Delta}{4a} \rightarrow -\frac{4}{4} = -1 \end{array} \right.$ Min $\left \begin{array}{l} -3 \\ -4 \end{array} \right.$	$y = x^2 + 4x + 9$ 	۸
$y = -x^2 + 4x - 2$ Max $\left \begin{array}{l} \frac{-b}{-2a} = 2 \\ -\frac{\Delta}{-4a} = \frac{4}{-4} = -1 \end{array} \right.$ Max $\left \begin{array}{l} 2 \\ -1 \end{array} \right.$ 	$x = 2$	۹
$x^2 - 3x - 2 = 0$ $\frac{3 \pm \sqrt{9+8}}{2}$	$s^2 - 2p = 9 - 2(-2) = 13$ Min $\left \begin{array}{l} -3 \\ -2 \end{array} \right.$ Max $\left \begin{array}{l} 2 \\ -1 \end{array} \right.$	۱۰