

الف) $x^2 - 4x + 1 = 0 \xrightarrow{+1} x^2 - 4x + 4 = 1 \rightarrow (x-2)^2 = 1^2 \rightarrow \begin{cases} x=4 \\ x=2 \end{cases}$

ب) $x^2 + 10x + 15 = 0 \xrightarrow{+9} x^2 + 10x + 14 = -9 \rightarrow (x+5)^2 = 3^2 \rightarrow \begin{cases} x=-1 \\ x=-9 \end{cases}$

الف) $x^2 - 5x + 4 = 0 \rightarrow (x-2)(x-3) = 0 \rightarrow \begin{cases} x=2 \\ x=3 \end{cases}$

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

الف) $x^2 - 3x - 2 = 0 \rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \rightarrow \frac{3 - \sqrt{9 + 20}}{2} = \frac{3 - \sqrt{29}}{2}$

$\rightarrow \frac{3 + \sqrt{9 + 20}}{2} = \frac{3 + \sqrt{29}}{2}$

ب) $4x^2 - 5x + \frac{1}{4} = 0 \rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \rightarrow \frac{5 - \sqrt{14 - 4}}{8} \rightarrow \frac{5 - \sqrt{10}}{8}$
 $\rightarrow \frac{5 + \sqrt{14 - 4}}{8} \rightarrow \frac{5 + \sqrt{10}}{8}$

الف) $x^2 - 3x + 2 = 0 \rightarrow (x-1)(x-2) = 0 \rightarrow \begin{cases} x=1 \\ x=2 \end{cases}$

ب) $4x^2 + x - 3 = 0 \rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \rightarrow \frac{-1 - \sqrt{14}}{8}$
 $\rightarrow \frac{-1 + \sqrt{14}}{8}$

الف) $5x^2 - 12x + 7 = 0 \rightarrow x^2 - 12x + 35 = 0 \rightarrow x = \frac{12 \pm \sqrt{144 - 140}}{2} = \frac{12 \pm 2}{2}$

$\rightarrow x = \frac{12 + 2}{2} = 7$
 $\rightarrow x = \frac{12 - 2}{2} = 5$

ب) $3x^2 - 10x + 7 = 0 \rightarrow x^2 - 10x + 21 = 0 \rightarrow x = \frac{10 \pm \sqrt{100 - 84}}{2} = \frac{10 \pm 4}{2}$
 $\rightarrow x = \frac{10 + 4}{2} = 7$
 $\rightarrow x = \frac{10 - 4}{2} = 3$

الف) $3x^2 + 4x - 1 = 0 \rightarrow \sqrt{16 - 12} \rightarrow \text{ریشه}$

ب) $2x^2 - 9x + 2 = 0 \rightarrow \sqrt{81 - 16} \rightarrow \text{جواب ندارد}$

ج) $2x^2 - 5x + 2 = 0 \rightarrow \sqrt{25 - 16} \rightarrow \text{ریشه}$

د) $2x^2 - 2x + 1 = 0 \rightarrow \sqrt{1 - 4} \rightarrow \text{جواب ندارد}$

$$(الف) \rightarrow \sqrt{\Delta} \rightarrow + \rightarrow a = 1]$$

$$b^2 - 4ac$$

$$ب) \rightarrow \sqrt{b^2 - 4ac} \rightarrow 0 \rightarrow a = \frac{9}{\lambda}$$

$$9 - (4 \times 2 \times \frac{9}{\lambda})$$

$$ج) a = 10]$$

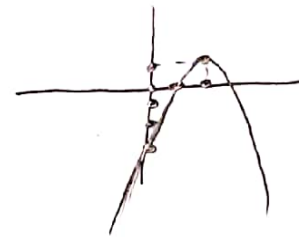
$$د) a = \frac{1}{2}]$$

$$y = x^2 + 2x + 1 \rightarrow 0 \quad \left| \begin{array}{c} -b \\ 2a \end{array} \right| \rightarrow \begin{array}{c} -3 \\ -4 \end{array}$$

$$-2 \rightarrow 1 + 1 + 1 = -4$$


$$y = -x^2 + 5x - 3 \rightarrow 0 \rightarrow \begin{array}{c} 5 \\ 1 \end{array}$$

$$-4 + 1 - 3 = 1$$



ب) نقطه ۱ و ۳

$$x^2 - 2x - 2 = 0$$

$$ع. 5 \rightarrow \frac{-b}{a} \rightarrow 3$$

$$ف. ۲ \rightarrow \frac{c}{a} \rightarrow -2$$

$$و) 5^2 - 2 \times 2 = 9 + 4 = 13]$$

$$ب) 5^2 - 2 \times 2 = 25 + 11 = 36]$$

جواب نه